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**BRITISH AND FOREIGN INVESTMENT.**  
**MR. THOMAS SPARGO, 224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C., TRANSACTS EVERY DESCRIPTION OF BUSINESS IN THE PURCHASE AND SALE OF SHARES IN BANKS, CANALS, MINES, RAILWAYS, BRIDGES, INSURANCES, AND ALL OTHER DESCRIPTIONS OF BRITISH AND FOREIGN STOCK.**  
 Mr. Spargo has 20 years' experience of mining, ten of which he was engaged in practical mining, and ten years he has transacted business in mining shares and stock, at 224 and 225, Gresham House, Old Broad-street, City, E.C.  
**Bankers: London and Metropolitan and Provincial Bank (Limited).**



## Original Correspondence.

## ANSELL'S FIRE-DAMP INDICATOR.

SIR,—I see by the letters which have been published in the Journal that the introduction of the Fire-damp Indicator of Mr. Ansell is stoutly opposed; this, of course, is only what might be looked for, as all scientific improvements are too apt to be looked at with a jealous eye by the practical man. But the practical miner really ought to be careful how he makes up his mind to discard these inventions, and as a proof of the soundness of this view, we need only to refer to that splendid achievement of the illustrious Davy, the Safety-Lamp. Now, we do not for a moment question the ability of the practical miner to determine whether a coal mine is safe or not; when he examines any mine carefully and the various air currents circulating in it, he can pronounce as to the safety of the mine—that is on general terms, and on a broad basis. But if we suppose that the mine is a fiery one, as often happens, he really cannot state to what extent those air-currents are vitiated by fire-damp. The Davy lamp does not indicate fire-damp much below the point of explosion, while the instrument of Mr. Ansell indicates any excess of this dangerous element. We think that a careful consideration of all these points will lead to the conclusion that to a certain extent the science of coal mining is conducted by what is vulgarly termed "rule of thumb." While the fact is indisputable that this mode of conducting affairs is very rapidly becoming obsolete in all branches of business, and, instead, reliable data are in all cases looked for.

Mr. Ansell tells us that in one instance he ascertained that the whole return air of a mine was charged with this gas to the extent of 5 per cent. Now, the practical miner, on examining this return by the candle, would have known that things were far from being pleasant, yet he could not know what margin of safety he had; and, again, if several miners had examined the same place, a difference of opinion would have been found to exist on this important point. From all this we contend that such an instrument as this would prove of great benefit, and would, if carefully attended to, most certainly prevent many explosions. The state of fiery mines is continually changing, and what we want is a correct register of these changes, and an account from day to day, and from hour to hour, of the actual state of the air in coal mines, whether they be lighted by means of open lights, or by means of the safety-lamp. If one of Mr. Ansell's instruments were placed in the main return, and one in each of the districts, the officers would soon get accustomed to their use, and would register their indications just as they now register the barometer and thermometer, and, without doubt, this would prove of great service.—*Newcastle-on-Tyne, Dec. 5.* M. E.

## DETECTION OF FIRE-DAMP—No. II.

SIR,—In whatever form gas may have been retained during the decomposition of vegetable material, and the process of the formation of coal, may perhaps be satisfactorily explained; admitting, as it does, of different theories, each supported by opinions obtained from observations taken merely to favour preconceived ideas and expressed opinions, which in the end may tend rather to excite our enquiry than satisfy our judgment. One feature connected with this gas is, that it is a body to be encountered, more or less, in nearly all coal mines, and its characteristic danger is such as to render it a necessary duty to be provided with sufficient means for successfully encountering and combating the same, converting it into a harmless mixture with pure atmospheric air, for unless there be always a plentiful supply of pure air where gas is evolved, to dilute it so as not to be appreciable, we cannot consider ourselves free from the danger it is capable of producing.

We consider it unnecessary to enter into the chemical details of the composition of this gas, except briefly stating that it is composed of carbon and hydrogen, is said to be transparent, colourless, inodorous, and tasteless, when pure, or diluted with atmospheric air. But I think it would prove a matter of no small difficulty to persuade an experienced miner of its possessing all the above-named qualities in common, inasmuch as it is generally found mixed with other bodies, or gases, evolved in the mine, as well as from animal respiration becoming incorporated with it, rendering, in many cases, its presence easily detected by the peculiar odour emitted therefrom. I doubt not but that many of your readers will have heard the expression of smelling gas often used by those whose duty it may be to examine the mine. That such taste or odour is due to the presence of, and in proportion to, some foreign body contained therein, is sufficiently clear from the fact that the strength of such odour is in proportion to the impurity of the atmosphere with which it is diluted. We generally find, from actual observation, that the detection of gas in all places where pure atmospheric air is regularly circulating requires the most delicate care and observation, owing to the action of gas upon the flame in such an atmosphere being delicate and quick; and as no odour is emitted, its sign upon the flame becomes the only means of detecting its presence.

In the opening out, or maiden working, of a coal mine, if such be found to give off or emit any considerable quantity of fire-damp, it does not often entail much inconvenience, nor is it attended with great risk, if proper and efficient means be employed, and followed, for sufficiently ventilating the same; such means being comparatively small to that power required for more extensive working, owing to the circuit which the air has to traverse being comparatively short; but if those precautions necessary to the amount of gas be allowed to become disused or neglected, then the danger, to whatever extent it is capable of producing, becomes more subtle and difficult of detection, as the usual tests, or symptoms, which are generally employed, and accordingly judged by, are less apparent, owing to the effect produced upon the flame being such as to approach to near an explosive mixture before its presence can be manifested to any but the most experienced miners. The brightness of the blue halo which its presence casts around the flame is due to the purity of the atmospheric air with which it mixes; its odour is scarcely appreciable, and in proportion to such is its power of elongating the flame diminished. While in old workings of collieries, or in the return air-roads, when encountered mixed with an atmosphere which has become charged with the impurities incidental to a coal mine, arising from animal respiration and the effluvia constantly flowing from decayed material, the detection of its presence becomes an easy task; for if present under the above-named conditions it generally emits a peculiar fetid odour, seldom mistaken by an experienced man for any other body than that emitted. It likewise possesses the power of considerably enlarging or elongating any flame brought under its influence, before any danger may be apprehended of its being explosive, yet as soon as its presence is made manifest by these signs, or any other indication which may be used for its detection, caution becomes a necessary element, in withdrawing all lights, however guarded, and adopt means whereby its removal from the mine can be safely accomplished; it being neither wise nor advisable to attempt to proceed further into an explosive mixture, even with a safety-lamp, unless some special circumstances warrant the attempt, as it can only result in placing you in a more explosive mixture, consequently a more dangerous position, and the act will seldom prove itself equal or commensurate with increased danger in practical use, or benefits conferred, consequently ought to be avoided. This caution is unnecessary to the thoughtful or the skilled in these matters, yet it cannot be too much impressed upon others, more self-willed and reckless, which is often mistaken for confidence in a knowledge which they imagine they possess. Examples are not wanting where such have fallen victims to the folly of these attempts, and such examples ought to stimulate all to exercise the greatest care and attention in the observance of those duties necessary for the safety of the mine.

It is much to be regretted that all whose lives are so often depending upon the safety-lamp, and the principles of ventilation, do not endeavour to make themselves better acquainted with subjects so nearly allied to their own safety, seeing that such is brought beneath their daily observation; yet there are few indeed who even bestow a thought or a moment's consideration upon the principles on which the safety-lamp becomes one of safety. Things brought regularly and daily before our thoughts and attention in process of time lose their effect upon the mind, and become merely passive impressions,

thus losing the benefits which close application to things pertaining to our daily duties often confers. From this it is not to be inferred that the colliers as a class of men are more ignorant than any other class of unskilled labourers; on the contrary, I think they would bear a very favourable comparison to most labouring classes, and are now a totally different class to the descriptions of colliers given half a century ago. They are found to be in possession of a general knowledge, and some well learned in particular subjects; yet it is difficult to find anyone who has given a thought to the subject above referred to. Rapid as the stream of education and information has spread and diffused itself in the present generation, it has not been confined within its proper channels, but rather allowed to spread itself widely, leaving faint impressions of its tractor existence. By such a course the collier still stands to his daily avocation in the same comparative ignorance which he held in times gone by. For were they to bestow a thought, and devote a portion of that time often spent in useless and injurious agitation amongst themselves, in becoming better acquainted with those things upon which they are dependent for their safety, rather than be constantly devouring themselves with reaping the fruit of discord and discontent, sown by a few individuals with sufficient cunning to obtain for themselves that portion which alone is productive, as such knowledge would materially aid, by ensuring attention, care, and judgment in the proper use of the safety-lamp, it would, no doubt, contribute very much to diminish the danger consequent upon that careless and somewhat reckless use to which it is often subjected in their hands. Such conduct cannot but be productive of danger and loss of life, both to themselves and their fellow-workers. This has often been verified by evidences brought out at inquisitions of working men tampering with their lamps, and so contributing largely to the cause of the explosions we have so often to lament.

It being now rendered imperative by Act of Parliament for examinations of coal mines where gas is to be apprehended to be made with a safety-lamp, experience very soon enables those whose duty it is to make such inspections to detect its presence, even in a small degree. Mr. Ansell stated at a meeting held on November 3, that there might be from 4 to 5 per cent. of gas present, and yet the lamp would not indicate it, and that where his instrument showed 5 per cent. in one pit, the lamp made no sign of any being present. Now, if Mr. Ansell will place a lamp in the hands of those whose daily practice it is to examine the mine, I have no hesitation in saying that they will denote its presence in a much smaller proportion than 5 per cent.; for he must bear in mind that a lamp in the hands of men who are practically conversant with it is a different article to that held by those who are never called upon to make such close examinations, and, consequently, are not able so readily to detect the presence of gas; in like manner will his fire-damp indicator be more delicate to his observation than it would be to those who are not so conversant with it as himself.

Whatever may be the merits or otherwise of his gas indicator, Mr. Ansell ought not, in justice to colliery owners and mining engineers, to censure them for any unwillingness manifested in believing all the merits which he claims for it. Should it possess the defect which your correspondent, "Carbon," mentions, of not being constant in its indication, then its use as a practical instrument, upon which so much depends, might be productive of more danger than would otherwise exist in its absence, and consequently would often indicate a clear atmosphere where such would or might be charged with a highly explosive mixture, unless someone were placed constantly near it, so as to take the first indication it made. If "Carbon" perfectly understands the principles upon which this indicator performs its operations, there is no practical man would ever think of applying it, so as to be generally depended on, under any consideration. Lord Kinnaird urges its compulsory use in coal mines. Now, were such to be enforced, I think that both his lordship and Mr. Ansell would shrink from the responsibility of any explosion which might take place, from a dependence placed upon it, where used in a practical form. His lordship states that he has heard of one objection which is made against the indicator—that it would manifest the dangerous atmosphere of some coal mines to the terror of the workman, who would not be prevailed upon to enter if such were made known. This appears like making the most of a question, and I have no doubt but his lordship's informant is urgent for the introduction of this instrument into coal mines, whatever its merits may be. Surely those gentlemen who have made mining a study and a profession are the best able to judge whether the introduction and use of the instrument be practical or not, and to what extent it ought at the present to be used and depended upon. If the merits of it be such as to warrant its introduction into coal mines, it will most assuredly force its own adoption, and when proved a guardian will make its use compulsory; but it would be premature to attempt such a procedure before it has been proved practically useful, for that would only tend to increase any danger which might already exist. If the statement which Lord Kinnaird made be correct in any instance, why not furnish the Inspector of the district with an indicator, so as to make manifest to the workmen the danger they are in? This is certainly an opportunity for the employment of the indicator, and I have no hesitation in stating my belief in its showing the state of the atmosphere correctly; and in this it will be found correct, and perhaps more convenient than useful, in examining a mine. This appears, I think, to be the only province in which it will ever become generally useful.

I trust that if it should be productive of greater safety to men that no one will, through mere stubbornness, oppose its use; but I cannot see how it can be so generally employed as to be entirely relied upon for constantly denoting the state of the atmosphere of a mine, seeing that it is not at any particular place where it is required to be denoted, but rather at every part throughout the mine; and when we consider the length of passages through which the air is required to circulate we can arrive at some conception of the importance that exists for adopting and following that system upon which we can depend for ascertaining the state of the mine's atmosphere, rather than to adopt that upon which we might depend for such knowledge at a few places only; for were there to be twenty of such indicators placed most judiciously in a mine, and all of them denoting an atmosphere which might not create any alarm, yet such would not be any guarantee of the safety of such mine, as it is not in the circulating medium that we often encounter danger from explosive mixtures, although such may be more or less charged therewith. In proportion to the density of the atmosphere gas oozes from every pore of the mine, and by its own gravity rises and clings to the top, so that when gobs are made, and abandoned as made, they become partially receptacles for it. Now, some parties have ventured the opinion that gobs can, and ought to, be ventilated; but such opinion can only be held by those totally ignorant of mines, or those who have only seen them under the most favourable circumstances; consequently, both of whom are incapable of forming a just opinion.

Another source of danger arises from sudden outbursts, or blowers, often in places before such outbursts comparatively clear. From either of these sources the attendant danger might be forcibly manifested before any gas indicator could be noticed, so as to be of any service in keeping or averting the danger ever attending such. There having been many attempts made since the introduction of the Davy lamp to devise means whereby the danger ever attending fiery mines might be entirely averted or, at least, diminished. No doubt but that such attempts have been the result of pure intentions to benefit their fellow-men, by lessening these lamentable catastrophes which we are so often compelled to mourn; but it very unhappily occurs that the purest and most worthy intentions are not always rewarded with the success they merit, or we should by this time have had our coal mines rendered as safe and healthy as the situation of any other labouring man. These attempts have not yet proved themselves equal to the task placed before them. Such failures have, no doubt, been occasioned by an ignorance of that to which the means were to be applied. It may be an easy matter to understand an instrument of our own construction, and be fully acquainted with its capabilities, and when the circumstances or conditions to which it is intended to be applied are made subject to the requirements of the instrument, we satisfy ourselves that it is a success, and often any unwillingness to see it in the same light is obstinacy and ignorance. In this does often the practical man differ from the theorist. Experiments when made ought always to be not only in places where they are intended

to be used, but likewise in the manner and under the ordinary conditions to which they will ever be subject, and afterwards to judge them comparatively with means already applied and in use. Upon these conditions alone ought the use of such to be judged, where the safety of one single life is at stake. C. HODGSON.

## COAL STATISTICS VERSUS COAL STRIKES.

SIR,—In the *Mining Journal* of Saturday last I find a long and laboured letter, signed "A Looker-On," in which, with exemplary pertinacity, the writer endeavours to controvert the facts and figures given by me in an article on "The Effects of Strikes on the Coal Trade." The letter alluded to is a mere recapitulation of what the writer has published in the *Leeds Mercury* and *Sheffield Telegraph*, in both of which papers my answer appeared. But, lest your readers should be led to suppose that I made statements which I could not support on the best data, I again put "A Looker-On's" facts and figures to the test. In doing so, I shall not be led away from the point by the great desire he has shown to do me all the injury he could in his truly original remark, that there are persons who write "for their own advantage," or by his suggestion in the *Sheffield Telegraph*, that "the miners of Barnsley will be able to appreciate such love," &c. Happily, Lynch-law is peculiar to the border States of America, and "rattening" is indigenous to the town of Sheffield, but it will certainly not be the fault of "A Looker-On" if one of those modes of silencing an opponent, whose arguments cannot be controverted, is not adopted. His suggestions certainly point in that direction. Divested of a good deal of "bunkum," "A Looker-On" complains that for a certain object I took exceptional years, having all the statistics before me; but, whilst taking credit to himself for only having Mr. Hunt's Statistics for the last two or three years, he cannot afford me to be in a similar position. But such was really the case, and up to the present time I have but seen Mr. Hunt's returns for 1865. Such being the case, I will now take the figures of "A Looker-On," which are much stronger than those I first quoted, and join issue with him, and in doing so I shall have to revert to the figures which appeared in my letter to the *Leeds Mercury* of Saturday last, which will clearly demonstrate that the "cramping" of "A Looker-On" has been attended with unfortunate results, and that, notwithstanding his efforts, those with whom he is connected would have been considerably advantaged by his silence; but, "fools rush in where angels fear to tread." Indeed, during the past week I have received notices from many of our largest colliery proprietors endorsing the views I have expressed, and in the strongest terms possible stating their surprise at the colliers putting forward such an advocate of their views—one who, amongst other things, coolly asserts "that at no time was the coal and IRON trade so well employed as at present." Why, Sir, it is patent to almost every child, one would have thought, that the iron trade of Yorkshire was never worse than at present. But let the facts and figures speak for themselves; although I agree with your anonymous correspondent that they can be so manipulated as to suit the object of a writer, no stronger proof of the assertion need be adduced than that furnished by himself.

"A Looker-On" states that from 1855 to 1866 the collieries in Durham and Northumberland increased from 273 to 292, and in Yorkshire from 333 to 434; whilst, on the other hand, there was a slight decrease in the number of collieries in Derbyshire and Lancashire. Yorkshire, therefore, shows an increase of 111 in the number of its collieries; but has the yield of coal increased in anything like the same ratio? That difficulty is attempted to be got over by "A Looker-On" assuming that, contrary to what is the case in Lancashire and Derbyshire, "it is clear that the smaller mines in Yorkshire have increased, and that the large ones have relatively diminished in production." Now, anything more contrary to fact cannot well be conceived, for it is well known to all persons connected with the coal interest that small collieries are fast disappearing, the tendency being to large works, as landowners will not parcel out their land in small quantities.

I have now before me the names of no less than 15 small collieries, situate in the neighbourhood of Barnsley, which have all ceased to exist during the last 10 years, and in their place we have some of the largest to be found in the Riding, including Wharfedale, Silkstone, Swaithes, Darfield, Agnes Main, Messrs. Charlesworth's, Dodworth, &c., employing hundreds of men, whilst the extinct ones did not employ tens. At present, also, some of the largest collieries in Yorkshire are in course of being opened out, such as Denaby, the new Darley Main, and one on land belonging to Earl Manvers, whilst small ones are unknown. If such has not been the case, how is it that, according to the writer's own figures, the colliery population has increased 47 per cent. in 14 years? Having thus disposed of one of the most transparent fallacies, I will proceed to a still greater one. He says:—"The yields of Yorkshire for 1863, 1865, and 1866, and in 1858-9, and in 1864, in comparison with any other part of the country, places Yorkshire A.1." With regard to that very extraordinary statement, which will doubtless astonish every person connected with the trade, and shows an amount of ignorance of the subject by the writer of it which one could scarcely conceive possible; for, in comparison with other districts, its progress ought to be classed A.2, and this will be seen by the following figures:—In Yorkshire the colliery population has increased fully 20 per cent. during the last six years, and the returns of the quantity of coal raised in it are—For 1860, 9,284,000 tons; 1861, 9,374,600 tons; 1862, 9,255,500 tons; 1863, 9,402,500 tons; 1864, 8,809,600 tons; and in 1865, 9,355,100 tons, giving an average of 9,246,883 tons for the six years, being considerably less than the quantity raised in 1860. During the same period Northumberland increased from 18,244,708 tons to 25,032,694 tons, equal to 36 per cent., whilst Derbyshire and Lancashire have also increased more than 25 per cent. in the same time. Notwithstanding these facts, Yorkshire, "in comparison with any other part of the country," is to be put down A.1.

With those simple and incontrovertible truths, I leave the public to judge as to who is right. Yet I cannot take leave of the subject without noticing the statement of a "Looker-On," who wishes the public to believe that he is a disinterested spectator; and, as he says in his letter, that "he is neither an agent for the men or a writer for the press," and that what he has written "has been for truth's sake." Now, Sir, I cannot allow that statement to go forth, as I assert, without fear of contradiction, that it is untrue. Mr. Holmes, of Hunslet, near Leeds, has long been one—if not the first—of the leading men connected with the Miners' Association, and for years past has frequently spoken at the miners' meetings, his great forte being the advantages of "co-operation," a subject which it is to be hoped he understands more about than he does of the coal and iron trades of Yorkshire. He is also—or has been—treasurer of the association, and a most important man indeed. So much for his assertion about disinterestedness and "the truth's sake." Having now, Sir, answered "A Looker-On," in every paper he has written to, with one exception, I must now take leave of the subject, assuring Mr. Holmes, despite his personal attack in the *Bee Hive*, that I am far beyond his power to injure, and that his attempts to bring me into discredit with the journals with which I have been connected for years has utterly failed. I trust that "A Looker-On," in his next attempt, will act more conscientiously, for "the truth's sake," and put his name to his productions, so as to show that he is really a disinterested spectator.—*Barnsley, Dec. 6.* JAS. RUGLEN.

## IMPROVEMENTS IN LEAD SMELTING.

SIR,—Having read the remarks of a "Mining Engineer" on the improvements made in lead ore smelting by Mr. Foster, of Lead Hills, I am astonished that one adopting that cognomen should apparently know so little of the state of lead ore smelting in his own neighbourhood, if residing in the North of England, as I suspect he is. He seems to consider that 70.5 per cent. obtained from ores containing 79 per cent. originally is a great achievement, yet there are smelting works in his own immediate neighbourhood where a proportionately large produce is obtained by the old Scotch hearth from ores of a much inferior quality, and with not more than from 1½ to 1¾ cwt. of coals per ton of lead. Not that I am in any way prejudiced against Mr. Foster's invention, but would be extremely glad to see him succeed in establishing it, if it is a real improvement; but so much depends on the form of construction and management of the Scotch hearth, that Mr. Foster's hearth may super-



seeds those adopted at Lead Hills, and yet be no improvement generally; and if the latter are built on proper principles and under efficient management (except there is some very refractory substance held in combination with the ores), I am of opinion that a larger percentage ought to be obtained from ores containing so much originally. Your correspondent further remarks that "at the smelting works in the North of England, where the ore is more pure, 16 tons per week is the quantity smelted at each hearth." Now there are very few smelting works in the North of England where the average percentage of the ores exceed that given above—79 per cent., and those where they do exceed that percentage are at the present time smelting 20 tons per week in the Scotch hearth, but by far the major part of them smelt ores of a very much lower produce, and how Mr. Foster's hearth would succeed with such is rather questionable. As there are many important features in addition to the first produce, which go to prove the efficiency of a good ore hearth, which your correspondent has neglected to notice, such as the quality of the lead obtained, the percentage of lead held in the slag, the waste by evaporation, &c., he would, perhaps, kindly inform your readers how his hearth stands in respect to these qualities.

Dec. 5.

GALENA.

#### THE CHINA CLAY TRADE OF CORNWALL—No. II. THE ROCHE MINING DISTRICT.

SIR,—I was much pleased to see my last letter published in the local papers of this county, and also in the Devon papers—that is, copied from your valuable Journal. Not of any pride or ambition to the writer, but for the object that it was written for—the benefit of the district; safe investment to the capitalist; and to give employment to the poor labourers in this district, who are now out of employment; a great many of whom are actually wanting bread, and cannot leave the place for the want of the necessary requirements to seek employment where it may be found, and even those that are in work are but badly paid. I was talking with some miners, who have been working at the china-clay works, during my travels through the district last week, and they informed me their gettings were only 10s. per week, which is the average of all the men working at the clay works. This amount is for eight hours per day, and if they wish to earn more they have to work 10 or 12 hours, which many men are obliged to do to support their wives and families; and, with the present price of provisions, I hope the proprietors will take it into their most serious consideration, and let the men be fairly paid for their labour, as I know of no class of labourers in the county that are so badly paid, according to the demand for labour, and the profit on the commodity, as the poor clay men are.

I must, however, leave this, and return to my subject—the Roche Mining District—and in doing so am glad to inform you that a most important discovery of china-stone has been made since I last wrote you. Hitherto no stone has been found within five or six miles of this place that has been saleable, although some traces of it have been discovered here and there, which has contained too much mica, or what is termed by the clay men "shell;" but from the present discovery I am led to believe this district abounds in the china-stone as much as the neighbouring parishes of St. Dennis and St. Stephens, where from 40,000 tons of china-stone are shipped annually. The cost in labour of getting the stone at the quarries is about 2s. 9d. per ton; carriage to port, 4s. 8d.; dues, 3s.; making a total cost of about 10s. per ton delivered at the port. The price per ton may be taken at an average of from 22s. to 26s., free on board; thus leaving a clear profit to the company of from 24,000l. to 25,000l. per annum. In the sale of the stone there is a combination, in order that each party may sell a fair portion at a certain price of what is raised, one company claiming the sale of one-half, or nearly so, and the others in proportion to what is raised at their different works or quarries, which in some places are extensive, and sometimes only a few tons are found. This stone is composed of felspar and quartz, and is void of the mica, the other constituent of granite. Here is a great study for the geologist, and I have no doubt that some of your correspondents will be able to explain how this stone is found embedded in granite rock; some places in large quantities, and some places only a few tons, and surrounded on every side, and the bottom, with solid granite, containing its proper proportions.

Having thus far given you some description of the china-stone, I shall continue the district for clay; and, taking a start from my last letter, we come to Little Johns, St. Dennis Downs, Great Guthers, St. Enoder Downs, and Trependillick, in the parish of St. Dennis, which returns from 15,000 to 16,000 tons per year. Going still further west, we come to the Great Carlogas, South Carlogas, East Carlogas, Hal-len, Blown Dale, Great Treviskey, Little Treviskey, Goonkeen, and the Victoria, with many others of smaller magnitude, all in the parish of St. Stephens, in which parish alone there is from 140,000 tons to 150,000 tons of clay sent away per year, or nearly 500 tons per day, besides from 130 to 140 tons of stone, and about 200,000 tons of clay from the parish of St. Enoder, making a total of 245,000 tons of clay per year, besides 40,000 tons of stone. The profit on the clay of this district may be fairly taken at 8s. per ton, thus giving a yearly profit on the clay of 98,000l., and from 24,000l. to 25,000l. on the stone, or a profit together of 122,000l. per year, and the price still looking higher, and the demand more brisk than ever known before. And when I tell you that a company, whose lease would soon expire, has entered into a new agreement for 21 years with the lord, and to pay him 25,000l. per year as dues certain, or as a minimum rent, and after that amount is paid, so much per ton for all that is raised above that amount, you may well consider that there is a good profit on the clay; and as there is a large field open, I hope shortly to see capitalists turn their attention to this district, where they will be fully remunerated for their outlay. Having thus given you a description of the clay and stone of this district, I will in my next give your readers some account of the iron mines, &c.

ARGUS.

P.S.—Any information as to china-clay, iron ore sets, &c., can be obtained by applying to "Argus," Post-office, Roche, St. Austell, Cornwall.

#### MINING AS AN INVESTMENT.

SIR,—I have been a correspondent of the *Mining Journal* for a number of years, during which I have been of necessity a close observer of commercial affairs, especially in those departments which most frequently come under the review of the Journal. One result of my experience and observation is, that I perceive the business of mining has suffered much more than any other from adventitious causes. It appears to me that the attention of persons engaged in mining operations, investors, and possible investors among the general public, ought to be called perseveringly and, if I may so say, peremptorily to these causes, until, by the force of enlightened public opinion, they cease to operate. There is a wide-spread impression at present that more money is lost by mining enterprise than by any other in proportion to the capital risked. Never was there a delusion more destitute of even appearances to support it. On the Stock Exchange, on the Mining Exchange, in the circles where mining stock so frequently changes hands, money is won and lost by the purchase and sale of shares in mines, and this is the case with stock of every description, as the variable money market affects every other. I doubt whether it is more the case in dealings with mining shares than in most similar transactions with others, and I know that in various departments of share transactions there is more loss, and more reckless hazard of loss, than has ever been known in the purchase and sale of mining stock. But, if it were as true as it is false that more money is lost in mining share dealings than in other stock transactions, it would not in the least affect the claims of the great mining interest upon the consideration of investors. It is not in the mine, but in the mining share market, that the probability of loss exists. If shares in a mining undertaking are brought into the market for sale before the property is developed, it is purely a speculative transaction, in the unfavourable sense of that term.

It is impossible to say with certainty what the property in a mine will produce until it is worked, and yields the quantity and quality of ore expected; but it is not impossible for brokers and others to rig the market for the disposal of shares in that mine, and there are plenty of patrons to the art and profession of juggling to sustain such operations. If money be lost in such instances, the loser has his own folly and avidity of gain to blame, and not the fact of his having invested in mining, nor any special risk appertaining to that

business. In fine, it is by gambling in shares, and not by investment in legitimate operations, that the losses are incurred on account of which it is attempted to bring disparagement upon the greatest and most productive industry in the country, and one which is favourable to sober and solid investment as much as, or more, than any other.

In illustration, or rather confirmation, of these statements, it is sufficient to refer to the fact that jobbing operations do not depend upon the value of the mine or the state of the metal markets, but sheerly upon the facilities afforded by circumstances, and the speculative folly of individuals. This is notorious to all persons acquainted with the subject, and it is time that the general public should raise the veil, and look in upon the reality. As a mine is worked, its shares go up and down in fitful and fictitious advance and recession, not in harmony with its progressive indications, but in connection with the caprice of the market. Were this impressed upon the convictions of the investing world there would be fewer speculative dealings in shares, and more solid and extensive encouragement given to mining industry, as well as real advantage to legitimate adventurers. All successful mining enterprises require time to make the treasures embowelled in the property available to the owners. The time required varies with the circumstances of the case, and the locality. Some properties are developed in a space of very few years, but generally from five to ten years are required to bring up the wealth of the mine to a full and fair development. During such period all dabbling in the value of the shares partakes, more or less, of a gambling character. An outlay of 25,000l. is a tolerably correct average of the cost of bringing a mine into such a position. So far as my knowledge goes, these remarks apply to foreign as well as British mining. Now, probably in nine cases out of ten market operations begin as soon as the mine is opened, and, therefore, can have no legitimate commercial existence.

In this way jobbers bring mining property into disrepute, and they are countenanced by men who, making haste to be rich, grasp at shadows, and neglect the substance; yet these are the very persons who afterwards raise the hue and cry against mining investment.

In future communications I will resume this subject as to other of its aspects, and point out the fact which is well known to the initiated, but will appear novel and doubtful to large classes of investors—that mines, the shares of which have been eagerly the objects of traffic in the mining market, are now *non est inventus*, while others, quietly and sedulously worked, and little known beyond the circle of proprietors, are now rapidly progressing.

Gresham House, London, Dec. 5.

THOMAS SPARGO.

#### ON SLATE, AND SLATE QUARRIES.

SIR,—Though his "ineautious words," to which Mr. Ennor, with good reason, pleads guilty in his letter on this subject in last week's Journal, may prevent him from conveying useful information, his animated discursiveness renders him an amusing correspondent. Passing over his notice of "strolling into a Welsh quarry," and a London quarry meeting, of the perishing stone of the Houses of Parliament (which by a strange blunder he fancies to be roofed with green slates), and much extraneous matter, I return to the points taken up in my letter to you of Nov. 10, showing, as briefly as I can, where he is right now, and where he repeats the errors he made before.

He now remarks that "Festiniog slates are a fair average slate to use, if made thicker." This is true; few slates, if any, make a better roof. It is something to bring him to confess this of the slates called in his letter of Nov. 3, "the fine black Festiniog, slates, the worst slate used." But he must still repeat his error on Dec. 1, calling them "Black Welsh," and saying "they all become 'smoots' in three or four years." No wonder Mr. Ennor contradicts me, when he cannot help thus contradicting himself. I must again repeat that there is not a black slate in the Festiniog Quarries.

In his remarks on different kinds of slate, Mr. Ennor confounds together strength of substance, strength of material, and strength of endurance. However good the metal may be, no slate is strong if split too thin. The roughest slates are not, as he supposes, the strongest because of their roughness, but because they have more substance than those split finer. Taking equal surfaces and thicknesses, the best slates bear more weight before breaking than rough ones, from their continuity of texture, toughness, and elasticity, whilst the same weakness or unevenness, preventing rougher slates from splitting, freely causes them to part where weakest under excessive strain. Again, no thinness of slate, though increasing its breakage from weakness, can make it more perishable from weather. Endurance, in this respect, depends on its component parts, and I must repeat that the Merioneth blues keep their colour and last as well as the Bangor purples, or Carnarvon reds, with no more chance of becoming "smoots" than the latter. Mr. Ennor must know that price and substance are the main regulators of the North Country demand. They will not pay for the best slates, nor could they use them on their coarse ragged roofs if they had them. But they take the Festiniog seconds slate freely. Since the great fire, Hamburg takes blue Merioneth slates in preference to Bangor. It is a truism that composite substances derive their properties from the proportion in combination of common elements; and I must again repeat that on the due proportion of silica combined with alumina depends that evenness of texture ensuring the most perfect lamination in clearing slate.

Bangor slate has about 48 per cent. of silica, 23 of alumina, 10 of oxide of iron, 4 of magnesia, and 1 per cent. of potash, these last serving as a kind of flux to the metal, whilst a trace of manganese (more abundant in the Carnarvon reds) increases the metallic hardness. Alumina, it is true, contains the metal aluminium, but is itself an earth, earthy, causing when in excess the loss of freedom of split and metallic ring in slates, leaving them more nearly resembling flags. Greater excess causes the cleaving slate to become a clay-slate. That iron mixed with alumina rusts and crumbles when exposed to weather many substances show, and Mr. Ennor would soon be convinced of it did he examine the really black slate, which I dare say he has never seen. It is true that iron mixed with sulphur, or powdered in the slate, is perishable, but cubes of pyrites are often found in the slate with no more weather stain round them than is caused by sprinkles of spar.

It is quite true that all slates should be made "with the grain." I hardly think he would find many slates made "across the grain" amongst the best Welsh slate, as the maker knows he must lose them when the sorter does his duty. But the Cornish slate (so much praised by Mr. Ennor) used to contain several so made, which break with mere handling. This prevented them from gaining ground in London, where they were introduced in the scarcity of best Welsh slate. I have not seen this slate for some years, and know not if it is now improved in this respect.

Finally, Mr. Ennor is as far wrong in his guesses as to my personal identity as in many other of his guesses. He says he has surveyed Festiniog quarries for many years. If so, writing as he now does of Festiniog slate, he surely must be a man whom experience cannot teach. Indeed, from his contempt of the verdict of men chosen as judges of slate for their practical skill, and from his refusal to read books from which he might learn something, I fear he belongs to that numerous class who, thinking themselves wiser than everybody else, never add to their stock of knowledge, because they fail to take the first step by finding out their own deficiencies. A MAN OF EXPERIENCE.

Dec. 4.

#### ON SLATE, AND SLATE QUARRIES.

SIR,—Reading over the letter by Mr. Ennor, in reply to a "Man of Experience," in last week's Journal, I am led to believe that Mr. Ennor displays in that particular letter more personal vanity than scientific ability. If Mr. Ennor be what he would lead the public to believe he is—a scientific and practical quarryman—I should feel indebted to him if he will condescend to enlighten the parties who take an interest in the development of quarries by answering the following questions:—

- 1.—Will Mr. Ennor tell us what is the geological position of those slates he so much praises, and the position of those he condemns?
- 2.—What does he mean by the word "smoots"?
- 3.—Where can he prove the Festiniog slates to turn smoots in three to five years?
- 4.—What thickness would he recommend those misguided managers

at Festiniog to split their slates in order to make them what Mr. Ennor calls "a fair and average slate to use?"

The above questions will, I hope, Mr. Editor, be considered fair and practical; correct replies to which will add considerably to the stock of knowledge on the subject, and bear no comparison to the question asked by Mr. Ennor of a "Man of Experience"—When did alumina and silica join heart and hand to form slates?

Dolgelly, Dec. 5. ONE WHO TAKES AN INTEREST IN QUARRIES.

#### "CAMBRIAN ERYR"—HIS SLATE QUARRY MANAGEMENT AND ACCOUNTS.

SIR,—I have been reminded that the Welsh Eagle has not yet replied to any of the numerous questions which I have proposed to him in the columns of the Journal, at various times, from June 2 to September 1, and that I ought to ascertain whether he is still above the clouds or down in the bulrushes. The subjects on which I have written were apparently of great interest to him, seeing that they formed the staple of four lengthy letters, from which I have only taken as yet a very few texts to comment on. The whole series will assuredly afford, for a moderate appetite, food for years, and matter for a commentary for an almost unlimited period. Perhaps the Eagle, after his lofty flights, is seeking to recruit his wasted energies in hibernating on the banks of a Welsh lake, and, possibly, with the returning spring, may again, as a Cambrian Gwydd, give evidence of vitality, and shake off his wintry torpidity. However, as I am for the moment free from the puzzling geology, chemistry, and philosophy of Cambrian, who may, for aught I know, be somewhere in the neighbourhood of Mahomet's coffin, as he has not favoured me with his half-promised reply to my rather long letter of Sept. 29, I shall bestow a trifle of time and attention upon the Eagle.

In my letter of Sept. 1, I desired the Eagle to furnish the names of his several profitable quarries, in which he had paid dividends of 20l. to 150l. per cent. per annum, as stated by him in his letter of March 17 last, but to that simple request, made in the interest of your readers, he has been so cruel as to turn a deaf ear. Now, this is not exactly fair treatment either to your readers or to me, for, as he published those illuminating letters for the purpose of benefiting English speculators, and putting English capitalists on their guard against ignorant and dishonest managers (none being the right sort but Welsh), I think, to justify his own position, and confirm his otherwise very questionable anonymous statements, he should give us the names of the several quarries which he has had under his "control," and which have paid such splendid dividends.

To shrink from doing so, when challenged, is to endanger the whole fabric, built up of such excellent intentions as are reiterated in those benevolent letters, all written for the benefit of the English, and not intended in any respect to put money into the pockets of excellent and ingenious (not ingenuous) managers, like the Welsh Eagle. Certainly he cannot complain that he has not had sufficient time to furnish the information desired, and I know many of your readers have been expecting to see the formidable list every week since, and have been sadly disappointed; nor can he complain of a want of memory, for the admirable system of book-keeping recommended by him would enable him at any time to ascertain the exact amount of profit which he had realised for the lucky proprietors in the several quarries he has under his "control." His inattention to my, I venture to think, natural and proper request, has occasioned me much unnecessary trouble and anxiety, for I have made a multitude of enquiries, especially in Nantlle Vale, for those profitable 20 to 150 per cent. dividend-paying quarries of the Eagle, and am continually met with a stare of incredulity, or what is much more galling to my feelings, a scarcely suppressed laugh of scorn at my gullibility. For I may remark, *en passant*, that although your readers may not generally be aware who this *soi-disant* "Cambrian Eryr" really is, the secret has been long the subject of current jest in Nantlle Vale. But, perhaps, the fact may be that the name of one of these great prizes is only echoed to the world when a sale is contemplated; and, probably, the mode of arriving at such a splendid result as 20 to 150 per cent. dividend is that described in the following words, which I quote from the Eagle's letter of May 26 last:—"There are many different ways of making up quarry accounts. Some are made in order to induce capitalists to invest, and show a surplus of 50 to 100 per cent. on the credit side, which, when minutely examined, ought in reality to be placed on the debit side, and the consequence would be a call instead of a dividend; so it requires capitalists to be very shrewd, as well as cautious, in perusing slate quarry accounts, for, when a certain object is in view, some make their accounts by charging all the expenses for outlay. There may be items of large amounts omitted in the balance accounts of work done for a month or more, but when these items are added, and credit given for preparations, the expense of slate making, officials' salaries, royalty, carriage, discount, and commissions placed against the value of slate made, it will very soon be seen that the amount is much larger on the debit side than on the credit."

One would suppose that, instead of devoting his time to the development of the Cambrian rocks, the Eagle had been devising ingenious modes of cooking quarry accounts. He says "there are many different ways of making up quarry accounts," and he gives a most curious explanation of what he means, and evidently exhibits himself as a master in the art of understanding how to do it, if he be not a practised hand in making 20 to 150 per cent. apparent profit out of actual loss.

People sometimes draw pictures which are intended to represent the minds and actions of others, but which, by a strange fatality, turn out to be the exact counterpart of themselves. "There are many different ways of making up quarry accounts," said the Eagle, and then he suggests one of the most barefaced and fraudulent. But although the account sketched by him is so objectionable in a moral and commercial point of view, and could only, I should have thought, have been conceived by a mind practised in the art of "making up," such is the extraordinary effect of imitation on human action, even in things most solemnly condemned, that people, as it were, unconsciously glide into the perpetration of those vices which it has been the practice of their lives to denounce to the world. Who does not remember the lines of the poet, impressed upon our rudimentary minds in childhood:—

"Vice is a monster of so frightful mien,  
As to be hated needs but to be seen.  
Yet, seen too oft, familiar with her face,  
We first endure, then pity, then embrace."

On no other hypothesis can it be conceived possible that the Eagle should himself have framed such an account as the one published by me in the Journal of July 21, being the account for working, not only a quarry, but the quarry in which he boasted of making 7000l. worth of slates, but forgot to say at a cost of 9000l. I must beg to refer your readers again to that letter, and the account therein contained. I therein re-stated, as it were, the very substance of what appeared in the denunciatory letter of the Eagle on May 26 last, but overlooked the conclusive authority of the Eagle himself for my remarks. I then said the preceding account is ingeniously stated to show a profit on the working for fifteen months of 1150l. 11s. 9d., by keeping back, as will be observed, in the first column every month a large amount set down as preparations, or opening new works, stock of implements, &c., while if these sums are included a loss of 1405l. 4s. 4d. will be found to be the truth, and the difference between the account rendered and the account as it should have been is only the trifling amount of 2553l. 16s. 13d.!

What an exact copy of the system of "making up accounts" which the Eagle said it required capitalists to be "very shrewd, as well as cautious, in perusing!" It is not to be wondered at, after such a specimen of "making up," that the whole of the accounts I have referred to should remain unvouched and unsettled to this day. Not a very satisfactory specimen of Welsh management for "English speculators" and "English capitalists" to contemplate, for whose especial benefit the Eagle has plucked from his own pinion "a grey goose quill," and tried how much, like many other sympathising moralists, precept and practice can be made to differ. Such accounts will, probably, never be settled till a Court of Conscience, known at Lincoln's Inn, steps in to reconcile the mathematical difference of this second Adam Smith, the author of this new edition of the "Wealth of Nations." I shall, probably, next advert to some statements in the Eagle's letter of March 3, as to the good returns to be made under good (?) management in the "perpendicular



slate strata" in 12 or 18 months. I do not wish to be hypercritical but as the Eagle surveys this world from above, he may be able to inform me if there are any "perpendicular slate strata."

London, Dec. 6.

THOMAS HARVEY.

#### CRUSHING ORES AND MINERALS.

SIR,—The general introduction of the useful contrivance known as Blake's Stone-Crusher has led to the patenting of improvements calculated to render the machine still more efficient. Amongst the latest modifications is that of Mr. James Frost, of Dudley, which consists in the use of a cam or crank fixed to a fly-wheel shaft, and giving an oscillating motion to a vertical lever, the lower end of which is connected by links to the lower end of another lever, to the upper end of which is cast or fixed the press block; facing the press block is a steel plate or a chilled cast-iron plate, which is fixed to the framing of the machine. The press block and the chilled plate are ribbed, and they are placed at an angle to each other, with the wider part upwards. The stones, ores, or other substances to be broken or crushed are placed between the chilled plate and the press block, consequently when the machine is at work the forward motion of the press block reduces the lumps to fragments, which finally drop through, when the fragments are brought to the size required. The size of the ribs on the chilled plate and press block, and the distance between them, can be regulated according to the size of the fragments required.

Bridport, Dec. 4.

H. C. F.

#### THE MINERAL AND INDUSTRIAL RESOURCES OF NEWFOUNDLAND—No. I.

SIR,—Within the last few months a circumstance of peculiar interest has riveted the attention of the civilised world to a comparatively diminutive island, situated in the Atlantic, and at a distance of somewhat less than 1800 miles west of Ireland. Newfoundland, for upon this now most interesting district I am about to dwell, claims no distinction from its size, nor from any remarkable feature in its historic antecedents. It is about 300 miles long from east to west, and 230 miles wide from north to south. It possesses a climate more severe than that of England, is visited by boisterous winds, and frequently exposed to the influence of fogs of remarkable density, but which fall far short of those which have been assigned to them by cursory observers, who have made a lantern an indispensable auxiliary, even at noon-day.

As an agreeable set-off against the inconvenience of these unusual fogs, it must in justice be remarked that the climate of Newfoundland is very salubrious, and instances of great longevity are by no means rare; in fact, the climate may be considered exceedingly conducive to health and long life, whilst the habits of the residents are such as tend to aid materially the natural conditions referred to, and to produce a race of hardy, stalwart islanders, unexcelled in any other portion—home or colonial—of Her Britannic Majesty's vast dominions. Of the population of Newfoundland it may be remarked, in the language of a recent explorer, Sir Richard Bonnycastle, "It is no longer a fluctuating one, but composed principally of a new race, which is constantly springing up, and who, being born on the soil, cherish and fondly adhere to it."—A residence of several years in Newfoundland has made me thoroughly acquainted with the habits, character, and disposition of the natives. They are hardy, industrious, and easily led; and whilst under the direction of skillful overseers, they become themselves skilful and efficient workmen. Plain and frugal in their habits, their wants are few, and those of the most primitive character, and it requires but fair dealing, and the punctual performance of all engagements made with them to secure their entire confidence, and utmost endeavours to promote the best interests of their employers." Again, "This most ancient and important settlement has been looked upon merely as a great nursery for hardy seamen, rather than as an immense adjunct to the trade, the power, and the resources of the empire, or as the real key of the continent of North America. Previous writers, who possessed not the requisite facilities in the colony itself to develop its resources, have been content to devote it to the purpose of a mere fishing station, whilst it possesses merits far beyond such a destiny, and is now about to assume a very important position as a British colony."

Prior to entering upon the subject of the industrial resources of Newfoundland, as exhibited in its unparagoned fisheries, herds of deer, smaller quadrupeds valuable for their skins, forests of trees, extensive savannahs, and most particularly its illimitable mineral treasures, which seem to permeate the soil, from the vast lead deposits of Placentia Bay at the east, to the carboniferous rocks of St. George's Bay at the western extremity of the island, let us pause for a moment to consider the importance Newfoundland can now assume as the first station between the two grand centres of commerce—England and America—of the Atlantic Telegraph Cable. Despite all adverse prognostications, trying difficulties, and disheartening failures, this gigantic undertaking has become what our Gallican neighbours would designate *un fait accompli*. After spanning the dreary waste of waters, upon whose base it appears to rest as though it constituted an original atom thereof, and that, too, at a profundity of not less, in some localities, than 2000 fathoms, between Valencia, an insignificant village or hamlet at the extreme west of Ireland, the cable obtains its first land footing at Trinity Bay, Newfoundland, the nearest tract of ground on the opposite American shore, after being extended (in a direct line) a distance of some 1800 miles. It is a feature worthy of record, that in carrying out this gigantic and wonderful scheme of scientific research and mechanical ingenuity, the joint aid of the talents of the two branches of the Anglo-Saxon race were evoked, and by their combined efforts it was brought to a successful issue; whilst in both countries the event has been celebrated by international rejoicings, and each has vied with the other to do homage to the originators and executive, without the slightest display of partisanship or jealous nationality.

In whatever light we contemplate this grand undertaking, we cannot fail to regard it as fraught with stupendous moral, intellectual, social, and commercial consequences. By its agency two countries, separated by the vast span of a trackless ocean, are in thought and speech united. For nearly a century these distant States have exhibited towards each other petty jealousies and fretful annoyances, arising, in a great measure, from traditional misunderstandings, which distance has magnified and time perpetuated, but which only require closer commercial union and more frequent international exchange of courtesies to weaken and ultimately eradicate. At the very crisis of events, and when not only was the Western hemisphere slowly recruiting from the throes and convulsions of the direst calamity which can befall a nation—a civil war—but the Mother Country was suffering from the injurious effects of the fratricidal contest of her offspring, the scientific and enterprising sons of both nations combined their energies in the grand and glorious enterprise which has resulted in bringing England and America into closer intelligence with each other than were any two integral portions of Great Britain a quarter of a century ago.

Who can, therefore, now predict the ultimate beneficial results to the cause of civilisation by thus bringing within a few minutes' intercourse two grand sections of the great human family, both springing from the same parent stock, speaking one common language, and possessing a community of sentiment upon matters of the most vital importance to the well-being of the humanity at large? Especially will the beneficial effects be perceived when the necessity arises for instantaneous combined efforts, such as have frequently occurred in the experience of many now living.

The population of Newfoundland is 140,000; of these the greater portion of the males pursue the hazardous occupation of fishermen, whilst the women assist in mending the nets, and take an active part in curing the fish and otherwise preparing it for and forwarding to market. From their occupation, which compels them to buffet with wind and water at all periods, when the latter is not frozen over, and to brave the most inclement weather, the men acquire a degree of hardihood, which renders them most desirable volunteers to our naval service. Hitherto, as I have already premised, this island has been looked upon as little better than a mere nursery for the British Navy. The day, however, has now arrived when, by the development of other industrial resources, especially the vast mineral hordes, hidden as they are in this district by the merest crust, other and more congenial employment will be promoted for those whose sympathies are bent upon a seafaring life.

The fisheries are, perhaps, the most extensive and prolific in the known world. Of late, however, other sources of labour have been opened out; of these, the various mines of lead and copper, building materials, and coal are beginning to form staple means of employment. The celebrated lead mine of Placentia Bay (La Manche), one of the richest and most extensive deposits extant, finds employment for a great number of hands, who are thrown out of work when the long winters set in, and their ordinary occupation of fishing is stopped by the ice.

Of the fish which frequents the various sea-boards of Newfoundland, the principal is a fine and highly-prized description of cod, which is cured on the spot, and shipped in great abundance to England, France, and other parts of Europe, the United States, and the West Indies. Salmon and trout of a very superior quality are abundant. The coasts are also frequented by whales and sharks, but hitherto no established system obtains for securing the former of these monsters of the deep.

Besides the hardy race I have endeavoured to describe, a large mercantile population has recently sprung up, whose business pursuits induce them to congregate principally at the western extremity of the island, in the town of St. John's.

*En passant*, I have often had occasion to remark, what has doubtless arrested the attention of many of your readers as an extraordinary fact—that there is scarcely a city or large town throughout the whole of Europe, nor can an exception be taken to the rule in the United States, where the west end does not become the favourite resort of wealth and fashion. It would appear as if in this movement there was something more than chance or accident; otherwise, why should the principle obtain so universally and so closely follow the example of the diffusion of civilisation and Christianity, neither of which have deviated from the same track, and of the sun which continues to move in the same course—from east to west?

After the fisheries, the most important pursuit of the inhabitants of Newfoundland is the beaver hunting. Time and space will not permit of an extended description of the habits of these interesting little animals. Suffice it to say, they abound on the island, and afford a fund of amusement, as well as profit, to the hunters. They are caught in large abundance, and are much prized, both as an article of excellent food and a means of great profit from the value attached to their skins. The ermine is also indigenous to the island, but, strange to say, though their skins are so much sought after in Europe, they are not considered worth the trouble of the islanders to systemise the search after them.

In the centre of the island abundance of food is found for the deer amongst the luxuriant herbage of the savannahs; hitherto, however, the interior has been very little explored, and the chase after these animals is reserved to future enterprise. Wolves, bears, foxes, grouse, curlews, and geese, afford excellent opportunities to test the dexterity of the adventurous sportsman. Of the natives few remain; these consist of the tractable and friendly Micmacs, who frequent the sea-shores, and mix frequently with the white population.

The surface of the country near the various shores is in general much broken up by ravines and precipices. More into the interior low woods and dense brushwood flank the vast rolling plains or savannahs, while the countless lakes relieve the eye, and impart beauty and freshness to a scenery that would otherwise prove sterile and uninteresting from its sameness. In no case do the mountains obtain any high altitude, the range being from 1100 to 1200 feet, though from being detached, rather than continuous, they give the impression of being much higher. To the north and north-west the woods become more dense, and in some places they acquire an unusual growth. The trees found most abundant on the island are the spruce, which predominates, birch, and larch. Neither beech, ash, oak, or maple, though indigenous to North America, have been discovered in Newfoundland. At and near the sea-coast all the timber is of a stunted character, but it serves admirably the purpose to which it is applied, that of building the boats which are peculiar to the islanders.

HARRY THOMAS VERRAN, M.E.

#### ALGERIA—No. V.

SIR,—Having described something of the character of the Atlas Mountains, it is as well to say, that if it were necessary to make a railway to the Great Desert, there is a pass at Batna, about 30 miles to the south of Constantine, that affords an easy route by which to accomplish it. At Lambessa, about 3 miles from Batna, there is an amphitheatre and some other buildings, with inscriptions on them and statues just as fresh, and in as good repair, as when they were left many centuries ago by the Romans. It seems a peculiarity of the limestone and the climate of this delightful country that the inscriptions and sculpture scarcely oxydise at all; the land being also rich in these remains, its ancient history is partially written almost everywhere upon its face. Batna and Lambessa are on the northern foot of the mountains, Biskara is on the south; it is one of the towns where those wonderful caravans, with their troops of camels, are marshalled for traversing the Great Desert. The diaries of these journeys it is most interesting to read, and I have sometimes thought whether it would not be possible to carry water in pipes by these routes through the sands, in order to make them practicable for other animals than camels. At Biskara, on the southern foot of the Atlas, the mountains are broken into deep ravines; the country is well watered, there are large saline lakes, and the physical aspect of the landscape (all except the sand) is very similar to the north. The climate, which loses its tropical character on the large wide high-level plateaus of Ainbaida, where they cease to grow the citron and the orange, here at Biskara, on the south side, assumes its tropical conditions, and the date flourishes in such abundance, and is cultivated with such care, and to such an extent, that it is carried down to the sea coast at Stora, Philipville, and Djidjile, and exported in great quantities to various parts of the world—the pass through the mountains from Batna to Biskara is a distance of about 12 miles. At Lambessa the Arabs seem to have forgotten their nomadic habits; they reside in houses, with well cultivated gardens of vegetables and flowers; they emulate the customs of Europeans, and, though dark are comely, courteous, and fond of society. The climate of the whole country from the sea to the Desert, a distance of about 140 miles, is exceedingly pleasant, except when the hot winds from the Desert prevail. At the seaside is usually tempered by the sea breeze; at some distance from the sea the atmosphere is cooled by the elevation of the ground, and during the time that I remained in the country, from the end of February until the beginning of July, I could well bear the same clothing that I wore in England.

I have hinted from time to time that the country is prolific in the germs of prosperity. I have alluded to the large heaps of wool and grain existing in other towns along the north side of the mountains; the roads are positively crowded with teams of large powerful mules, splendidly symmetrical, moderately agile Arab horses, and good small oxen, all drawing off the produce of the country. Besides this traffic immense bodies of sheep are driven to the sea for export to Marseilles. In the vessel in which I crossed the Mediterranean on my way home there were 1000 tons of iron ore, 1250 sheep, and a large number of cattle for France. Cork grows to a considerable thickness upon the trees; but eventually I shall go into these matters in detail, my object at present being to show the necessity and value of the railway now making to Constantine, evidently fostered, if not entirely made, by the Government. It is easy to imagine that the great traffic on these roads, and which has continued, more or less, for 2000 years, having to ascend and descend hills of more than 1000 ft. high has always been a cause of impoverishment to the country. It is quite evident that those sort of hills require twice the number of draught horses that would be wanted on comparatively level ground; and these, to some extent, are the locusts that eat up the land, rendering competition with the markets of other countries difficult. Seeing this state of things, the French Government have instituted a line of railway from Philipville to Constantine. There are three somewhat extensive tunnels upon this line, one running under the town from the harbour up to the main level, at the commencement; another about half way under the great mountain of El Cantura, and the third at the terminus at Constantine. These tunnels were rendered necessary by the peculiar and extraordinary outline of the surface running between the sea and Constantine, up to 5000 feet high, and ending in Constantine 3000 ft. above the level of the sea. Down these roads, which in about two years more will lose their principal traffic for ever,

have been carried the corn that 20 centuries ago used to supply Old Rome, and up these roads the marble from the quarries of Filfila, that then adorned the magnificent buildings of the country, and enrich them even down to our own times. What a magic change will this create in the columns of trade! What an alteration will it effect in the coming generation of Algeria! But still, in order to carry the road home to the great sources of traffic, there must be a line made from Constantine to Ain Baida, with a branch to Batna; and, according to my judgment, there is not a railway in the world that will pay better or effect more good than that from Philipville through Constantine to Ain Baida on the left, and Batna on the right hand, Philipville, on the sea, stands on the site of an immense Roman city. The harbour now building will occupy about four square miles of water. It will take a long time to finish, but it will be a wonderful acquisition. The accommodation of Philipville is very good. The Hotel d'Orient and the Hotel de France are excellent hostels, where the traveller will fare as well as in France or England. The population is now about 10,000, and the people industrious and frugal. I will on a future occasion refer to the matter of the marble quarries, the cork, oak, the mines, &c.

COPPER MINER.

#### MINING IN ALGERIA.

SIR,—As one of your constant readers and subscribers, I pay a good deal of attention to all communications included in your valuable Journal. I notice, some weeks since, letters from one of your correspondents in Algeria, who signs himself "Copper Miner." If the writer, who seems to be an intelligent and energetic traveller, is visiting the frontier of Sahara merely to find valuable copper lodes, I can give him good advice, and save him and his friends a good deal of money. However rich the lodes may appear, it is now, and will be for many years, a very wrong plan to adventure money in Algerian mines, so far from the sea shore region, in places where you have no easy and cheap conveyance, no population, no protection for the works. Algeria, no doubt, is one of the richest countries in mines of the old world; but, in order to make successful investments, the places must be properly selected, and the working scientific and practical at once. As those principles have very seldom, till now, ruled Algerian undertakings, there has been a good deal of money lost. I suppose that if English copper miners do go to Algeria, and no other country is worth while in the same degree the attention of English capitalists, it is not to follow our wrong steps.

The personal interest I have in one of the richest copper mines in Algeria, in one of the best situations, quite near the sea, may, perhaps, deceive me. But, in any case, if "Copper Miner" is anxious to see promising lodes of yellow and grey copper, I will introduce him to a place where he will not meet the company of lions and eagles, like in his tour at the boundary of Sahara, but where he will find, when wanted, plenty of workmen, a quiet population of Europeans and Arabs, and a safe port just at the distance of a nice walk from the mines. The expenses of carrying the ore from the mine to the sea are not higher than the cost of cartage between London-bridge and Euston Station.

Should this communication prove of interest to your Algerian "Copper Miner," or to any other of your correspondents, I will readily enter more fully into communication on learning the same through the Journal.—Paris, Dec. 5.

T. C.

#### PROSPECTS IN THE CARADON AND CAMBORNE DISTRICTS.

SIR,—It is with more than ordinary pleasure I again refer to this subject, as it will be in the recollection of those who read my letters that in reference to WEST CARADON I stated I had every reason to believe that shallow productive bunches of ore would be found to exist in the unexplored ground. Within the last fortnight this has, to some extent, been verified by the cutting a few feet below surface of what is supposed to be Cymo's lode, so rich in the adjoining mine, South Caradon. It shows a gossan not to be equalled in the whole of this great district; indeed, such an one has never yet failed on development to produce large quantities of copper. The "shoddy" still continues in search of the other lodes known to exist in this ground, which, when laid open, a shaft will be sunk in the centre of such a group of productive lodes as cannot be surpassed in the country; it is, therefore, with every confidence I recommend the mine to investors, fully believing that in a few months shares will be at more than double their present quotation.

WHEAL AGAR.—Within the last month the East Pool rich lode has been cut in the 140, and on being driven through, proves to be 11 ft. wide, worth at present 40s. per fm. This is a discovery of great importance, as the rich tin mines of Dolcoath, Carn Breca, and Tincroft, in the same vicinity, made all their riches under similar circumstances. The upper workings are in Killas, and immediately the lodes enter the granite they become rich for tin. This is another instance, and I believe they are on the top of one of the great deposits for which this district has long been famed. It is, moreover, a lode of no ordinary size, and in such cases, when these masterly lodes strike into mineral they turn out large masses. There has been about 40,000 lbs. called up on this mine, and from all appearances the object is now being attained. I, therefore, look forward to a great rise in the price of these shares, which is fully warranted by the improved prospects of the property.

NORTH CROFTY is another lode, and is about to become a great tin mine. There has been called up about 18,000 lbs., and from all appearances the shareholders are about to reap the reward of their perseverance. I have not time on this occasion to do justice to this mine, but shall refer to it again more fully on a subsequent occasion.—St. Day, Scortier, Cornwall, Dec. 5.

CHARLES BAWDEN.

#### PRINCESS OF WALES SLATE COMPANY.

SIR,—Allow me to call attention to the report of the meeting of the Princess of Wales Slate Company (Limited), which appeared in last week's Journal, and which you will oblige me by correcting in publishing the following. I am said to have stated that the expenditure had been 1690s., and only 21s. worth of slates produced. What I said, and what the balance-sheet also shows, was that the amount expended to produce 21s. odd in slates was 2303s., in the following items:

|                     |                   |
|---------------------|-------------------|
| Workmen's wages     | £1584 12 0        |
| Office expenses     | 169 16 0          |
| Salaries            | 418 15 0          |
| Travelling expenses | 130 5 0—£2303 8 0 |

I have also to call your attention to what your reporter has omitted. After my observations respecting the directors' salaries, I proposed to do the duty of a director myself, and if not a director an auditor, free of all salaries or charges, except my travelling expenses. And, again, when the late directors were put before the shareholders for re-election, I proposed, as an amendment, and which was seconded, that each director should be voted in separately, which was put to a show of hands, and carried. Mr. Harvey then demanded a poll, which terminated in all the late directors being re-elected. The directors, manager, Chairman, and secretary all voting in their behalf. It is the first time that ever I heard of a candidate for office voting in his own favour. When the quorum of shareholders found that the directors and their friends had elected themselves in, they arose in a body (that is, the shareholders) and left the room, and told the self-elected and their friends that as they elected themselves in, perhaps they would also vote their own salaries; but I see they had not the assurance to do that. Thus ended our first meeting, after the company had been two years in existence. I wish also to observe that the majority of shareholders had nothing to do with the election of Mr. Bullock, or yet the complimentary votes to the Chairman and officers. What was there to compliment them for?

4, Charles-terrace, Bishop's-road, Victoria Park, Dec. 5. W. W. SILVER.

#### CALDBECK FELS (CONSOLIDATED) LEAD AND COPPER MINING COMPANY.

SIR,—I notice in last week's Journal a letter from Sir Robert Briscoe, Bart., the Chairman of this company. In which he states that "from past experience he feels it his duty to warn the shareholders not to be deceived into removing the management back to London, for, unless they court ruin, it is necessary to have directors upon the spot, who can easily and at any time when required visit the mine, and have the captains before them." As a shareholder ignorant of the cause of the existing differences, the above statement—however true—appears to me to contain an extraordinary anomaly. Here is the Chairman (who has occupied the position from the commencement of the company)—a gentleman residing in the immediate locality of the mines, having as his colleagues other local residents of position and influence—suggesting a course which the shareholders had a right to suppose had been adopted from the outset, the fact being that the local directors received their remuneration for that specified object.

It is idle for the "local" Chairman now to turn round and complain of "wasteful expenditure," for if ever the efficiency of "local directors" could be of practical utility it certainly is when the mine is being laid out; and, therefore, if "wasteful expenditure" has been incurred none can be more blame-worthy than the "local directors," who—to repeat the words of the local Chairman—"can easily and at any time when required visit the mine, and have the captains before them." For what purpose other than this have the shareholders paid the directors, including the "locals," an annual stipend of 600s.? While I am not at all questioning the beneficial influence of local directors, and especially when they perform the duties for which they are liberally paid, yet if we, as shareholders in this company, base our opinion upon what our worthy Chairman pleases to call "past experience," it obviously cannot be in favour of the local gentlemen.

That the shareholders possess a valuable property, capable when further developed of returning something like 300 tons of lead ore per month, is admitted on all hands, while its extent is far greater than can admit of development by the present company. I have been informed, upon good practical authority, that in the portion of the property known as the Dry Gill Mine there is a lode at least equal in value and extent to that upon which the operations are at present being conducted in Roughton Gill. As in the latter alone there is considerably more mining ground than can for years be developed, the question of dividing the sett might not be out of place, as was done with Snodwell and Great Laxey; this, however, is a matter for future consideration. What the shareholders now have to do is to adopt measures that will ensure the efficient and



marks, and retired, but he subsequently found that his name was mentioned in connection with the committee of investigation. That being the case, he asked



## Mining Correspondence.

## BRITISH MINES.

**BEDFORD UNITED.**—J. Phillips, Dec. 5: The two stopes in back of the 115 west will produce 2 tons of ore per fm. each. The lode in the 103 west is about 1 ft. wide, unproductive. The three stopes in the back of this level are yielding the same quantity of ore as last reported.—North Lode: Our progress in the engine-shaft is slow in consequence of the hardness of the ground. The lode in the 75 west is 15 in. wide, composed of spar, muddle, and stones of ore; in this level east the lode is small and unproductive. The lode in the 62 east is 18 in. wide, producing good stones of ore.

**BEDOL-AUR.**—H. R. Harvey, Dec. 5: The shaft has been cut down nearly 1 fm. below the 77; ground rather stiff; the lode in the north end of the shaft is producing some stones of lead, but not enough to value. Jones's pitch is not looking quite so well, but still yielding more than 1 ton per fm. Metall's pitch has improved a little, yielding about 3 ton of lead per fm.

**BOTTLE HILL.**—J. Eddy, Dec. 6: South or Copper Lode: The lode in the 12, west of cross-cut, is about the same as to size and quality as when reported on last week; the ground here has now become easier for working. The lode east of cross-cut in the same level is about 18 in. wide, for the present poor for copper, but producing good work for tin. The ground in the 24, west of shaft, is still hard, and the lode small.—Main Lode: The price of tin being so low, we intend for the present stopping all work on this lode we possibly can, and confine ourselves to that ground which we consider will pay.

**BROXFORD UNITED.**—T. Kemp, Dec. 5: Settings for December: Six men to sink a winze from the 52, on the north part of the lode, to carry it 9 ft. by 6 ft., at 190s., worth 4½ tons of lead per fathom. The stope in the back of this level to four men, at 75s.; this stope, east of winze, to four men, at 50s. The stope under the 40 to six men, at 35s. No change in the value of these bargains. We have communicated the new shaft with the rise from the 52, and the shaftmen have taken credit to complete the shaft to the 52 for this level.

**BRYNAN LECH.**—Wm. Wasley, Dec. 6: The 5-in. lift in Lewis's shaft is working well, and I think from present appearances that we shall be able to sink a good many yards with it. I have set the shaft to nine men to sink for this month, at 16l. per fm. This week we have had a hard bed of elvan in the deep adit end, but I think it will soon wear out again, when I expect an improvement in the ground. No change in the end driving on the new lode.

**BRYN GWYN.**—H. Nottingham, Dec. 5: The level driving south-west from the middle of incline, east of shaft, is a little harder than it was, but the joint is carrying on very regular. We have met with some strong boulders of limestone in driving the lower level south from the incline, which is impeding our progress, but I think this will be of short duration. We have met with no change in the character of the ground in either of these levels since we resumed driving therein. The joint we are following south from the top of the rise, in the back of Clark's level, is yielding a little ore, but the joint continues very close. In driving Field's level south we have met with some nice lumps of ore, and I think we shall have a little ore from this part after opening out the ground a little. There is no change in either of the tribute bargains since my last.

**BRYNPOSTIG.**—J. Kitto, Dec. 4: The 13 has been driven east from the engine-shaft about 50 fms.; the last 35 fms. has been through ore ground varying from 10 to 30 cwt. of ore per fathom. The lode in the present forebrest is 2½ ft. wide, and worth about 12 cwt. of lead per fm. The stope in the roof of the 13 is worth 15 cwt. of lead ore per fm.; the prospects at this depth are exceedingly good, such as are seldom seen in young mines at this level, and as the lode is richest at the deepest point we have yet seen it, we may reasonably expect a further improvement in the next level. We have put in dressing-floor, have commenced washing, and shall have 20 tons of good lead ore ready to sample during the current month.

**CAMBORNE VEAN.**—N. Clymo, Dec. 5: The 170 fm. level, east of Gryll's shaft, continues worth 1½ ton of copper ore per fathom. The 150 fm. level has improved since the meeting, but has now come back to 1 ton per fathom. The 135 fm. level is still worth 3 tons per fathom; the winze below this level is worth 2 tons per fathom. We have holed the mine from the 120 to this level.

**CAPE CORNWALL.**—Ralph P. Goldworthy, Dec. 5: Saturday last was our pay and setting day, which passed off well. The following is a copy of our settings for December, and an account of the ground in the ends for November: The 100 fathom level east, by two men, at 2l. 7s. 6d. per fathom; the lode is large, and has improved recently, producing stamping work; we opened 2 fms. in this end last month. The stope in the back of the 100 east, by two men, at 1l. 1s. per fathom; the lode is producing stamping work, and is likely to improve as we near the present end. The 100 west, by two men and one boy, at 2l. 10s. per fathom; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 90 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 90 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 90 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 80 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 80 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 80 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 70 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 70 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 70 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 60 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 60 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 60 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 50 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 50 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 50 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 40 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 40 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 40 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 30 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 30 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 30 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 20 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 20 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 20 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 10 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 10 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 10 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work. The 0 fathom level east, by three men and one boy, at 2l. 10s. per fathom; the lode is unproductive at present; we opened 2 fms. 2 feet last month; our object is to push on the end with all possible dispatch to reach the junction. The 0 fathom level west, by two men, at 2l. 2s.; the lode is producing a little tin, but not to value; we opened 2 fms. 3 feet 4 inches last month. The stope in the back of the 0 west, by nine men and two boys, at 3l.; the lode is producing tin, but scarcely sufficient to pay, it has a little of the main ore, and is containing copper and underlying tin. The stope in the back, by two men, at 1l. 15s. per fathom; the lode is producing fair stamping work.

1½ ton of lead ore per fm.; in the stope over this level the lode is from 2 to 3 yards wide, producing 1½ ton of ore per fm. In the 99 east, the lode is 8 ft. wide, unproductive; in the 97 west, the lode is 3 ft. wide, a little improved for lead ore since last reported on, now yielding about 5 cwt. per fm. In the 80 east the lode is 1½ yard wide, yielding 1½ ton of lead ore per fm. In the stope over this level, east of Hugh's winze, the lode is from 3 to 4 ft. wide, producing 1½ ton of ore per fm. In the 68 east the lode is from 4 to 8 ft. wide, producing small bunches of ore, not to value. In the level west of cross-cut, 20 fms. east of Taylor's shaft, the lode is 1 yard wide, composed of a light gray slate, stones of copper, and lead ore, producing of the latter 1 ton per fm.—Reed's Shaft: In the 80 west the lode is from 2 to 3 feet wide, unproductive for ore. The pitches throughout the mine still look well.

**EAST PROVIDENCE.**—John Nancarrow, Wm. White, Dec. 1: At our usual monthly survey to-day the following work was set:—The 94 to drive east and west by 12 men and boys, at 12l. per fm. The 82 to drive east by six men, at 4l. per fm.; lode squeezed, and does not yield much tin. The 70 to drive east by four men, at 4l. 5s. per fm.; lode yields some good tin stuff. The 50 to drive east by four men, at 6l. per fm.; lode worth 4l. per fm. We have also set 14 pitches to 34 men, at an average tribute of 10s. in 12.

**EAST ROSEWARNE.**—John James, Dec. 6: In King's shaft, the lode is 1 ft. wide, and worth 14l. per fm. In the 85 west the lode is 18 in. wide, more promising in appearance, and producing stones of ore. The 43, east of Hallett's shaft, is without change to notice. In the 43, east of King's cross-cut on the engine lode, the lode is disordered, but producing stones of ore. I think we shall have ore to value here when we get a little nearer the elvan course. The stope in the back of the 85 east are each worth about 10l. per fm. The stope in the back of the 85 west is worth 12l. per fm. The stope in the back of the 75 east is worth 6l. per fm. Our machinery is in good condition. Water about six strokes per minute, which is moderate for this season of the year.

**EAST ST. JUST UNITED.**—J. Cartwright, P. Casley, Dec. 5: There is no change to notice in any part of the mine; the winze from the 10 to the 20 south, on the Guide, is not yet holed; we expect, however, that it will be to-morrow, as the miners in the winze can converse with those in the rise.

**EAST WHEAL GRENVILLE.**—G. R. Odgers, Wm. Bennett, Dec. 5: In the 95 east a hard elvan came around and squeezed the lode; it is 6 in. wide, with a little ore, but not to value. The lode in the winze sinking below the 85 west is 2½ ft. wide, worth 4 tons of ore per fm.; therefore, looking at this, with the character of the lode in the 95, we think the falling off is but temporary.

**EAST WHEAL LOVELL.**—R. Quentrell, Dec. 5: The Turnpike lode continues to open out satisfactorily. We shall commence driving east and west at the 28 in a few days.—North Lode: We have not yet cut the lode in the cross-cut. We have resumed driving west at the 45 in a lode 2 ft. wide, worth 15l. per fm. The stope in the back of this level west is worth 12l. per fm., and east it is worth 25l. per fm.—South Lode: In the shaft sinking below the 40 the tin has taken a more westerly dip, consequently there is a little granite in the east end of the shaft, but the lode is very rich in the western end. These patches of granite are not unusual in this mine. In the stope west at the 40 the lode is 9 ft. wide, worth 40l. per fm.

**EAST WHEAL RUSSELL.**—John Goldworthy, Dec. 6: At Homersham's shaft, sinking below the 140, the ground continues slow for progress. In the 140, east of Robert's cross-cut, the lode is 3 ft. wide, composed of capel, quartz, prlan, and muddle, and produces rich stones of yellow copper ore, with a great increase of water. The stope and rise in back of the 130 are suspended for the present, the men having been taken to sink a winze in bottom of the 130, to enable us to effect a communication with the 140 as quickly as possible. In the winze sinking below the 130 the lode is 4 ft. wide, a good course of copper ore, worth 30l. per fathom; this winze is in advance of the 140 end. In the easting, in the north part of the sett, we have opened upon a lode, which, so far as seen, is a good appearance.

**GLASGOW CARADON.**—Wm. Taylor, Dec. 4: In the 78 west the ground continues hard, but with little change to notice in the lode; it is letting out a good deal of water, and apparently will make a change in a short distance, but the progress is very slow. The lode east of the 78 is in this level to prove the lode east of the cross-course. In the 65 west we have not taken down any lode for the week; by the side of the lode we have a beautiful channel of easy ground, in which should be a good course of ore. I hope we shall find the lode to have improved when we take it down, which will be a day or two. The lode in the winze in bottom of this level is worth 9l. per fm. No change to notice in the cross-cut south; we are pushing it on as fast as possible.

**GOTHIC.**—J. Lewis, Dec. 5: The 30 in back of the 30 on tribute, at 7l. per ton; the lode will yield 1½ ton or upwards per fm. Four men in the 17 cross-cut north, so far as the agent may think proper; the ground in the present end is letting out more water than ever, which looks as though the lode (Bennett's) is not far off. Two men on the south lode from the 25 cross-cut south; the lode in this end is again looking well, having branches of lead ore intermixed throughout. Four men to drive on Bennett's lode east and west; this lode continues to yield fine stones of ore. The stuff at surface is finished picking over, and in a few days will be crushed and made ready for market. I have purchased a small lot of oak timber; but the weather has been so very wet and stormy that it has not been delivered yet at the mine.

**GREAT NORTH DOWNS.**—Wm. Rich, C. Bawden, Dec. 5: We have set the large pumping-engine on Sleggan's shaft to work to-day, which answers admirably. The water will soon be in fork, and the sinking will be urged on by 12 men without delay. We have turned the western 50-in. engine idle, believing there will be no necessity to keep the both engines working. If, however, there should be any increase of water during the winter months, we are now fully prepared to keep it under, having 18-in. pitwork in first-rate condition in two shafts. The 70 end, west of Sleggan's, seems to be improving, now worth 6l. per fathom. We shall set off a level eastward from the bottom of Butler's shaft next week.

**GREAT NORTH LAXEY.**—R. Rowe, Dec. 4: The lode in shaft sinking below the 82 continues about the same as last reported—3 ft. wide, and worth 2 tons of ore per fm. We have also tapped a fresh feed of water in the bottom, strongly indicating a great increase of water during the winter months, we are now fully prepared to keep it under, having 18-in. pitwork in first-rate condition in two shafts. The 70 end, west of Sleggan's, seems to be improving, now worth 6l. per fathom. We shall set off a level eastward from the bottom of Butler's shaft next week.

**GREAT RETALACK.**—G. R. Odgers, Dec. 5: We have taken out the engine, and the masons are getting on as well as they can with the building of the new house. We have no change to report in any of the underground operations since my last. I am thinking that we ought to open a little further south on the Trebellan lode, and which I propose to do next month; the ground, so far as seen, is a good appearance. Silver-lead, and it can be done cheaply.

**GREAT SOUTH CHIVERTON.**—J. Gifford, Dec. 5: Gifford's shaftmen are getting on with the new lift, and we expect to be in full course of sinking by next Monday. The lode both in the 20 fm. level east and west has a most promising appearance for lead, and looks as if we should have an improvement shortly.

**GREAT SOUTH TOLGYS.**—J. Daw, Dec. 5: In Noel's shaft, sinking below the 125, the lode has a little improved in the past week, but all the other points continue the same as when last reported.

**GREEN T. OF BRIDLE.**—R. Pryor, H. Trengoning, Dec. 1: The 75 cross-cut, south of Hill's level, is a little improved; the ground is much the same as for some time past, and the water increasing. In the 75 end, on the lead lode, driving west towards the old mine, the lode is 16 in. wide, containing muddle, flookan, spar, and spots of silver-lead; the ground is without change to notice during the past week.

**GWYDYR PARK.**—W. Smyth, Dec. 4: The lode in Gwyn Lliffon adit north about 2 ft. wide, of spar, muddle, blende, and spots of lead ore, and letting out water. The lode in the end driving west is still small and disordered, but the water is increasing.

**HARWOOD.**—J. Race, Dec. 2: At our setting on Monday the level going east in north string was set together with No. 1 stope, to two men, at 60s. per fm.; this stope is poor at present. No. 2 stope is set to two men, at 60s. per fathom, worth 1 ton of ore per fm. No. 3 stope is set to two men, worth 1½ ton of ore per fm. The level going east in the vein is set to four men, at 45s. per fm.; this is poor at present, but I think we shall have a change for the better shortly. I will put two men to open out the old level to Trough on Monday. The work will come out now by the hoist level to the new level to the 20 fm. level.

**HINGTON DOWN CONSOLS.**—T. Richards, Dec. 5: The 140, east of Bailey's engine-shaft, is worth 25l. per fm. The stope in back and bottom of the 180 east are worth 60l. per fm. The stope in back and bottom of the 130 west are worth 35l. per fm. The 120 west is worth 15l. per fm. The stope in back and bottom of the 120 east and west are worth on the average 25l. per fm.

**LADY BERTHA.**—J. Metherell, S. Harpur, Dec. 6: The 41, driving east, is a little improved, carrying a leader on the north part of the lode, 6 in. wide, good work, and has every indication of further improvement. There has been no lode taken down in the 30, driving east, since last reported. We sampled on Friday last (computed) 27 tons—No. 1, 22 tons; No. 2, 5 tons. The water is very quick in the mine.

**LOVELL CONSOLS.**—Wm. Chappell, Dec. 5: We set the 12 fm. level end to drive west on the course of the lode, and the cross-cut to drive north in the same level, to get under the perpendicular shaft sunk down within 4 fathoms of that level. After the cross-cut is driven under the perpendicular shaft we shall at once rise so as to hole to the bottom of the shaft, and let down the water, which will also thoroughly ventilate the mine, and enable us to continue the cross-cut north to cut the Trevenen north lode, which is only 6 fms. north of perpendicular shaft; at the same time, we shall be able to drive south from the same point to cut Trevenen south lode, which is standing about 6 fms. south. When this is accomplished it will enable us to work on three lodes. Also clear the cross-cut south at the adit level. We shall not be able to clear the cross-cut north until the water abates, but I have every reason to believe that from the appearances

of the lode in the 12 fm. level end driving west, and the two lodes standing north and south, when cut will lay open a good mine.

**MINERA UNION.**—W. T. Harris, Dec. 6: Douglas's Shaft: The ground consists of chert and spar of a favourable character, but spare for sinking; the water continues about the same. The ground in the 40 cross-cut indicates a change for the better for progress, and in about 4 yards I expect to cut the vein.—Brabner's Shaft: The ground in the 80 yard cross-cut, to the red vein, consists of black limestone and shale. Last night we cut a very large stream of water in the forebrest, which is encouraging. The stearing of the 60 yard level north makes good progress, in the stuff we find fine lumps of lead upwards of ½ cwt. The ground in the big cross-cut consists of limestone and spar, and as for some time past.—Williams's Shaft: The lode in the rise in back of the 100 yard level north is 1 ft. wide, very promising for lead. The pitches continue without alteration.

**NEW CLIFFORD.**—J. Michell, Dec. 6: Holland's engine-shaft is in regular course of sinking, and good progress is being made. There is no alteration to notice in the ground since my last report; it is very good for sinking in, and is still highly mineralised, with faces of yellow copper ore, which, no doubt, is leading to a rich copper lode. The engine and pitwork are in first-rate working order.

**NEW CROW HILL.**—Wm. Treloar, Dec. 4: The lode in the 70, east of the winze, is still much the same as last reported, being 4 ft. wide, carrying plenty of muddle, quartz, and jack, with a little lead now and then intermixed. I broke myself from the end a day or two ago some nice specimens of lead ore, and it is still my opinion that we are walking over some good stuff that exists below this level. The new stope in the back of the 55 east, No. 1, is still without change to notice, producing good stones of ore, but nothing regular as yet, nor do I expect much change here for the next month or two. In No. 1 stope, the men are still beating up the western ground, and they are now breaking some good work for the stamps. The lode in the 35 fm. level end has much changed during the week, being now 3½ ft. wide—hard and compact, principally muddle and jack, with a little lead interspersed, though not much to value. No change in Louisa shaft since last week. The ground at the bottom of the shaft being still a nice blue killas, traversed by veins of good-looking spar. Our batch of lead has been sent off this morning, and will realise 2000l., or nearly the price being a little over my calculation, and the weight a little above my estimate.

**NEW TAMAR SILVER-LEAD.**—J. Phillips, Dec. 6: The lode in the present end, driving south, has improved during the past week both in character and value; it is now worth full 9 cwt. of rich silver-lead ore per fm., with every appearance of its further improving as we progress on its course. We have to-day put two men to rise and stope in the back of this level, and I am happy to say that with the produce of this point, and the end we shall soon be in position to return a very nice little parcel of first-rate ore.

**NEW TRELAUNY.**—E. H. Dingle, Dec. 5: The engine-shaft is down 25 fms. 9 in. from surface, and is re-set to sink by six miners and two labourers, 7 fms. stent, at per contract, 66l. 10s., to be carried 12 feet long by 6 feet wide with timber, which will make the shaft 30 fms. 9 in. from surface; this I hope to have completed in six weeks from the present time. At this level I would recommend you to drive both east and west on the course of the lode in shaft, and there is little doubt in my mind that when this is done you will have a paying mine; the lode in the shaft continues of the same width, composed as heretofore of muddle, good spots of copper, quartz, and prlan, and is letting out a great deal of highly mineralised water, and will now yield 8 tons of muddle, with good stones of copper, per fm. The engine and pitwork are in good order.

**NEW TRELEIGH.**—J. Michell, Dec. 6: The new shaftmen are getting on pretty well sinking under the 60. The rise in the back of the 60, east of the new shaft, will be communicated with Hicks's winze on Monday next. The men are engaged rising against the winze gone down in the bottom of the 51, west of the shaft, which is full of water at present, and the rise, communicated from the course of a few days, when the men will resume the driving of the 60 west at once. The 40 west is looking very promising indeed; the lode is 7 ft. wide, with several branches of ore up and down the end. The stope are yielding a fair quantity of ore, both in the 50 and the 60, east of the new shaft.

**NORTH DOWNS.**—F. Fryor, J. Grenfell, Dec. 4: Bennett's Shaft: The 70, east of this shaft, and the winze sinking below the 60, are without alteration since last report.—King's Engine-shaft: The 40, east of this shaft, on the south side, is improved, now worth 30l. per fm., with a promising appearance. The stope in the bottom of this level, east of the rise, communicated from the 50, is also improved, worth 8l. per fm. In No. 1 stope, in the back of this level, no lode has been taken down since last report, which remains at 10l. per fathom value. No. 2 stope, in the back of this level, is worth 4l. per fm. value. There is no change to notice in the 50 east, either on New Brigian lode or Good Fortune, since last report.

**NORTH LEVANT.**—J. Bennett, J. Thomas, Dec. 5: In the 115, east of Law's shaft, we have not taken down any lode since the last report; the stope in the back of the same level are a little improved, worth 2l. per fm. The lode in the 100 east is worth 2l. 10s. per fm.; the branch discovered in the 100 north, on the Guide, reported last week, has not yet been opened on, but we shall be in order to drive on the same in a week's time. The lode in the 85 east is worth 2l. per fm. The tribute department is without change.

**OKEL TOR.**—J. Rodda, Dec. 6: The lode in the 80 cross-cut south is composed principally of spar and arsenical muddle, interspersed with copper ore—looking very promising. We have an increase of water coming from the breast of the end, which shows that we have some distant water to drive down to reach the south wall of the lode. Bate's stope, in the back of this level, will yield 3 tons. Reynold's stope will yield 3½ tons, and Trengoning's 2 tons of ore per fm. The lode in the 65 east is composed of capel, soft quartz, prlan, peach, muddle, and a little ore; the ground in this end is easy for driving, and good progress is being made. The lode in Rowe's winze, sinking in the bottom of this level, is looking very promising, and yielding 2 tons of ore per fm. The stope in back of the 65 east are yielding as follows—Oliver's, 2 tons; Wilton's, 2½ tons; Pearson's, 3½ tons; and Casselman's, 3½ tons of ore per fm. In the 120 east of Hatch's stope, the lode will yield 2 tons of ore per fm. We have intersected the capels of the lode in the 50 cross-cut, but cannot give you the character of the lode until we get further into it. Hill's stope, in the bottom of the 50 east, will yield 2½ tons of ore per fm.

**OLD GUNNISLAKE.**—N. Rickard, Dec. 5: The lode in Parker's shaft still maintains its size and kindly appearance, with a small underlie, about 8 inches in 6 feet, producing good spots of grey and yellow copper ore of rich quality, and the shaftmen make good progress in sinking. The lode in the 21, west of Parker's, is increasing in size, being about 18 in. wide, composed principally of gossan and spar, with sprigs of grey ore, the ground easy for driving.

**PAR CONSOLS.**—F. Puckey, J. Hosking, Dec. 5: We have no improvement to notice in any part of the mine since the adventurers' meeting held on Nov. 6.

**PEDNAN-DREA UNITED.**—W. Treay, J. Thomas, Dec. 1: Sump: In the 140, the branch cut in the cross-cut is letting out much water, and producing stones of tin; we propose driving west on its course a short distance to prove it, as it appears favourable for driving, and promises improvement in that direction. In the 130 east the lode is small, worth 4l. per fm. In the 120 west, the lode is 6 ft. wide, worth 14l. per fm. We expect this lode to increase in breadth and productiveness, as we shall meet with Skimmer's main lode in 4 or 5 fms. further driving. The lode in the stope in back of this level is worth 20l. per solid fathom, and is 12 feet wide. In the winze in the 120 east the lode is worth 9l. per fm. In the 120 west end the lode is worth 8l. per fm.; in the 100 east end the lode is worth 8l. per fm.; in the 100 east rise the lode is worth 6l. per fm.—Cobbler's: In the 110 west end the lode is worth 8l. per fm. In the 75 cross-cut north there is still much water coming from the level, with stones of ore, no lode yet intersected. No other change to notice.

**PENHALE WHEAL VOIR.**—W. Chappell, W. H. Martin, Dec. 5: The various points of operations continue to open out as last reported, with an improvement in the 74, east of Hollingsworth's shaft, where we have a branch of rich tin, that will form a junction with the lode in driving a short distance, when we may reasonably expect satisfactory results. The men are making rapid progress in driving the cross-cut, south of Sanford's, at the 61, to cut Penhale lode, which we hope to do by the end of January. For that purpose we have been working round stem times so as to get the cross-cut completed as soon as possible against the general meeting. We are preparing a parcel of tin for market. All the machinery, pitwork, &c., are in good working order.

**PRINCE OF WALES.**—J. Gifford, W. Gifford, Dec. 4: The cross-cut north at the 55 is now in 10 feet, in favourable ground, and letting out much water, which indicates that we are not far from a lode. The cross-cut south at the same level is now in 2½ fathoms, in a very congenial killas for copper ore, showing iron in the points very similar to what we have around the course of ore in the level above, and most of the water in the mine is coming from this end. Should the lode continue the same dip to the 25 as shown in the 45, and we think it will, we expect to cut the lode by Christmas, and from present indications we have every reason to believe a good course of ore will be met with. In the 45 west the lode is 4 ft. wide, of a very promising character, worth at least 10l. per fathom. In the 45 east, and east of the cross-course, the lode is full 4 ft. wide, composed of gossan, capel, and quartz, with black and yellow copper ore throughout, yielding 3 tons of ore per fathom, of good quality. In the latter part of this, or the beginning of the coming week, we shall commence the rise from the 45 with the winze in the 45, and we shall commence stopeing both east and west in a good course of ore. Now our surface works and machinery are nearly completed, we estimate our cost will not exceed 250l. per month. We sampled on Friday last two parcels of ore, computed total 76 tons. We have now 10 tons of ore at surface, and from present appearance throughout the mine we hope our next sampling will be much larger.

**REDMOOR.**—T. Taylor, Dec. 6: The ground in the south engine-shaft is much harder, and more settled, although we are obliged even now to use timber. In driving the 62 we have a deal of muddle, mixed with black copper ore, which is saving. No other alteration.

**ROARING WATER.**—H. Thomas, Dec. 4: For the last few days we have been driving by the side of the lode in the bottom level, west of Grady's shaft; the lode is forming a fine wall, and from its appearance I think when the lode is taken down it will be found to be productive. The machinery is in good order.

**ROSEWARNE CONSOLS.**—J. Nancarrow, R. Knuckey, Dec. 4: In the 100, east of Ellen's, we have cut through the cross-course in the bottom of the end, and expect to get fairly into the killas on the other side by the end of this week. The west stope above the 130 is worth 5l. per fm. The east stope above the 90 is worth 6l. per fm. The stope below the 90 east is worth 4l. per fm. We have commenced rising above the 80, west of sump, for ventilation, and have a very promising lode, 2 ft. wide, which yields good stones of ore. There is in the 70, west of sump, a very good looking lode, yielding rich stones of muddle, and containing a little black ore. There is no alteration to report in the pitches since last week.

**SOUTH CALLINGTON.**—W. Spargo, Dec. 6: We have got through the vugh in the south adit, and are again in the lode, which has a splendid appearance; although the lode at present does not produce lead enough to save, a more promising lode cannot be seen, and, judging from present appearances, no miner could but recommend the extending of this level deeper into the hill to meet the stratum of ground which produced the lead broken from the lode opened on at the top of the hill, where the level is fast approaching at a great depth. We have again resumed clearing out the old workings on the manganese lode, which we hope to reach shortly.

**(Special Report.)**—J. Spargo, Dec. 6: By the request of my son, I have just looked at the lode in your south adit; I consider it a very promising lode indeed in fact, I should say no man that is a judge of a lead lode could but advise the driving of this level, for two main reasons. First, the ground is sort for driving; second, the lode is at least 4 feet wide, with a beautiful underlie; third, the composition of the lode at the present depth is everything to warrant a course of lead at a deeper point; and, fourth, in extending on this level deeper in the hill you will intersect another channel of ground, where the lode is seen open on the top of the hill, near the shaft, from which splendid stones of lead have been



reach the east end of the tin ground.

UNITED MEXICAN.—Guatemala, Oct. 24: Mine of Jesus Maria y

**VICTOR EMANUEL.**—T. Roberts, Dec. 2. Miggiadonone: We are pleased to report a promising lode in the end of Thompson's level; it is 3 feet wide, and yielding some good stones of copper carbonate. We appear to have made a goodly haul, and may expect shortly a further improvement in this end. The lode in the winze in Falconer's level is 3 feet wide, and yielding also good stones of ore; we hope shortly to have the pleasure to report a discovery in this mine.—Bavento Mine: The lode in the stopes in the bottom of the 43 metre level is 3 ft. wide, worth 9¢ per fathom.

**JOHN W. BROWN.**—T. Roberts, Dec. 2. Miggiadonone: The old men's workings, where we find some good dressing work.—Val Bianco Mine: Since last we reported we have carried 2 tons of auriferous ore to the mills, which have been

**SAN PEDRO EL MONTE.**—W. H. Chynoweth, Oct. 25. Captain Bishop reached these mines in safety on the 10th instant. He has since had sufficient time to examine all the underground works, and from his opinion of the several lodes, and our future prospects, which are highly favourable, the board of directors will read with interest the following report on the mines:—**Santa Elena Shaft:** On Monday last we recommenced sinking this shaft with twelve men, with the object of cross-cutting Wilson's lode as speedily as possible at a further depth of 15 or 20 varas (as may be decided upon), and to open level thereon. Wilson's level, or rather the cross-cut, is being driven north and south, and will be completed in about a week. The level is 12 inches wide, and the cross-cut have driven through 18 varas of rich silver ore ground, and during the whole drive the largest and most productive part is the bottom of the level; but we shall not be able to sink thereon until the shaft is deeper. The cross-cut in the San Carlos level has not yet reached Wilson's lode; the ground is hard and unsuited for driving. The San Miguel level is suspended for the present to facilitate the sinking of the shaft.—**San Pedro Adit:** The lode in the end is 1 var wide, and producing good silver ores. The winze of San Francisco is being sunk with as much energy as possible, and the ore part of the lode is 12 inches wide, and produces good silver ores. The level in the end is 12 inches wide, and the cross-cut, as in former reports, the influence of which has naturally disordered the lode. We met with some very rich stones in driving this end, and expect as soon as we get through the cross-course, to meet with the same rich shoot as we intersected in the level above.—**San Guillermo Shaft:** The lode is 2½ feet wide, composed of spar, prismatic, muncie, &c.; sinking with all possible dispatch.—**San Lorenzo Level:** The lode in the end is 12 inches wide, chiefly composed of spar, spotted with muncie and blende, and is also letting out a large stream of water. It should be borne in mind that this level is approaching the bottom of three lodes, and the San Pedro and Wilson's levels may reasonably be expected to give us very satisfactory results.—**San Juan Adit:** The lode is split by a horse of killas, but the ground is highly mineralised, although still poor.—**Surface Works:** During the month we have been making an excavation, now nearly finished, for the ground on which we are preparing to erect a second whim on the Santa Elena shaft, and the quarrymen are busily employed in raising stone for the smelting furnaces. Mr. Sewell has written me to the effect that he will come here to superintend the smelting process, and I am daily expecting to hear from him to send horses to the city of Tolima for him. He will, undoubtedly, write the board of directors a most interesting letter. It is impossible to estimate the value and degree of certainty when the first bars of silver will be produced. I have, however, the satisfaction to state that we have several tons of rich ores ready to commence the smelting operations.

**MAGNESIUM LAMP.**—An exhibition of the magnesium light, by the aid of Mr. Larkin's lamp, took place at the New Jerusalem School-room, Manchester. In this lamp the magnesium is burned in a state of coarse-grained powder, mixed with sand. This mixture is contained in a reservoir above the lamp, into which it descends by means of a small tube. Falling through the flame of an ordinary gaslight, the particles of magnesium are instantly burned, while the sand falls unchanged to the bottom of the lamp, where it becomes mixed with the magnesia, or product of the combustion of the metal. This method of burning magnesium is unquestionably both ingenious in its application and effective in its results. That the light will burn steadily, continuously, and brilliantly for several hours has been lately proved in so many recent instances as to meet all possibility of doubt. At Nottingham, during the meeting of the British Association in that town, two of these lamps were used to illuminate the winter garden. In which the *societes* were held. For that purpose the invention was remarkably successful, the brilliancy of the scene being greatly enhanced by the small but powerful means of illumination which were employed. The light, afforded by this lamp is somewhat like moonlight, in the harvest months, but it leaves an unpleasant sensation on the retina, and it was not followed by any such means as gas or opaque glass, much of the piercing power of its rays would be lost. But although an invention may be, like this, successful in its operation, there is another aspect in which all such matters should be viewed—its commercial value. In this respect Mr. Larkin's lamp will never, we fear, meet with the application which so perfect an invention deserves. The cost of using this lamp is stated to be about 20s. per hour. This is therefore, equal to the consumption of more than 6000 feet of coal gas, which is sufficient to supply 1200 burners in street lamps. The much smaller space required for the one magnesium light would be, in some cases, a consideration, and lead to its adoption; but its cost would preclude its use in such public buildings as the Free Trade Hall, one of the most perfectly and brilliantly illuminated halls in the country. In a hand lamp, for the use of mining surveyors and inspectors, Mr. Larkin's invention is much more useful, and his lamp



The directors beg to lay before the proprietors of this company the report of their consulting engineer, Mr. William G. Roberts, for the half-year ending



det. 2. where they will find ample details as to the present position of the mines, and the works carried on upon your property during the past six months. The operations at Shallice, as regards the raising of silver-lead ore, have been carried on upon a very limited scale, owing to the defective machinery, which has of late been found utterly inadequate to the draining of the mine, and consequently several of the workings there have been suspended for some months past. A new and powerful steam-engine has been erected, which will ensure the perfect drainage of the mine, and greatly facilitate the raising and dressing of the lead ore, and thus, your directors believe, enable them to offer a much larger quantity for sale than has ever been previously done. Your directors would beg to call your particular attention to the production of zinc oxide from the low percentage calamine ores. You will perceive that the experiments which your directors have been conducting for a considerable time have terminated most satisfactorily, and they have every reason to believe that the 20,000 or 30,000 tons of poor calamine ore already raised can not only be turned into a marketable value, but made to yield a handsome profit. The erection of furnaces for the purpose of producing the oxide will involve some small outlay of capital; but from the extremely favourable results obtained by the experiments already made, as detailed in Captain Roberts's report, your directors feel assured that such outlay will meet your hearty approval. It was originally proposed to erect at once 12 furnaces, but on mature consideration your directors determined to erect but half that number in the first instance. By the statement of accounts, which is now in the hands of the proprietors, it will be observed that, notwithstanding the drawback above referred to, the lead mine at Shallice East has produced a profit during the past six months, a profit which your directors feel assured will be greatly increased during the next half-year, on account of the greater facility they will now have of raising and dressing the ore by means of the new engine and machinery just erected. Since the last general meeting your directors have had to regret the loss of an esteemed member of their board, Mr. John Elliott. The vacancy caused by his decease has been filled up by the election of Mr. Edward Nolan, an active member of the shareholders' committee, as a director of your company, a choice which your directors feel convinced will meet with your full concurrence.

After reading also the engineer's reports, the Chairman continued, and in moving the adoption of the report, which was duly adopted, briefly congratulated the shareholders on the prospects of the company. They had long and patiently waited for the successful working of the mines, and now a bright prospect was opening for them. In one of the mines as would be seen from the report, there were valuable discoveries of lead ore, but they had been unable to make them available because of the want of machinery to dress the ore. When the directors met the shareholders last they were dependent altogether on a water-wheel, which had been eventually rendered useless. They had since erected an engine, which was completely furnished, and which in a short time pumped out the water which flooded the mines. When they were able to continue their explorations they would find the engine a most valuable acquisition for the dressing of the ore. In addition to the engine they had to get what was called a stone-breaker for the purpose of separating the ore, which was very often embedded in the rock. When both those engines were in full working order he had reason to believe the result would be most satisfactory. As regarded the silver mines, they were for a long time endeavouring to sell that ore, but the silver offered were not sufficiently remunerative. They had themselves endeavoured to manufacture it, and had for that purpose erected some temporary caldrons. From the manufacture of that ore they hoped to derive a considerable profit, and also from making the zinc into what was termed oxide of zinc. That oxide of zinc was quite marketable in England, and they had reason to believe they would obtain a fair price for it.

At Redruth Ticketing, on Thursday, 3440 tons of ore were sold, realising 13,223 17s. The particulars of sale were:—Average standard, 101 1/2; average produce, 6 1/2; average price per ton, 3l. 17s. 0d.; quantity of fine copper, 224 tons 5 cwt. The following are the particulars of the sales during the past month:—

| Date.   | Tons. | Standard. | Produce. | Per ton. | Per unit. | Ore copper. |
|---------|-------|-----------|----------|----------|-----------|-------------|
| Nov. 1. | 2171  | 101 1/2   | 6 1/2    | £3 6 0   | 12s. 6d.  | £262 5 0    |
| " 2.    | 1370  | 104 8 0   | 6 1/2    | 3 12 0   | 11 7 1/2  | 58 1 0      |
| " 3.    | 2884  | 104 19 0  | 6 1/2    | 3 17 6   | 12 1      | 61 5 0      |
| " 4.    | 2941  | 101 3 0   | 6 1/2    | 3 17 0   | 11 10     | 59 0 0      |
| Dec. 6. | 3440  | 101 3 0   | 6 1/2    | 3 17 0   | 11 10     | 59 0 0      |

Compared with last week's sale, the advance has been in the standard 15s., and in the price per ton of ore about 1s. Compared with the corresponding sale of last month, the decline has been in the standard 3l., and in the price per ton of ore about 3s. 6d.

At the Swansea Ticketing, on Tuesday, 1091 tons of ore were sold, realising 7812 1s. The particulars of the sale were:—Average standard, 90 1/2; average produce, 10 1/2; average price per ton, 7l. 3s. 3d.; quantity of fine copper, 117 1/2 tons. The following are the particulars of the sales during the past month:—

| Date.    | Tons. | Standard. | Produce. | Per ton. | Per unit.   | Ore copper. |
|----------|-------|-----------|----------|----------|-------------|-------------|
| Nov. 29. | 2717  | 92 1 3    | 10 1/2   | £10 11 0 | 12s. 11 1/2 | £269 15 0   |
| Dec. 4.  | 1091  | 90 11 3   | 10 1/2   | 7 3 3    | 11 4        | 58 10 0     |

Compared with the last sale the decline has been in the standard 2l., and in the price per ton of ore about 4s.

At Wheal Grenville meeting, on Tuesday, the accounts showed a debit balance of 988l. A call of 2s. 6d. per share was made. Capt. Odgers and Benett say:—“We have 13 men on tribute, varying from 9s. to 13s. 4d. in 1l. We have stamped during the last quarter 2280 tons of tinstone, which has averaged from 2 1/2 to 3 cwt. of tin per 100 sacks, or 10 tons. We estimate the cost for the quarter at from 750l. to 780l. per month, and we think to sell about the same quantity of tin and copper ore. The improved appearance of the lode in the 120 east, and the very great probability of meeting something in the 120 very shaft and 30 cross-cut north, are, we think, great inducements for further perseverance.”

At South Wheal Grenville meeting, on Tuesday, the accounts showed a debit balance of 37l. 10s. A call of 1s. per share was made. Some shares for forfeited at the last meeting were restored on solicitation. Capt. Odgers and Benett say:—“Seeing the general improvement that is taking place in the character of the lode, we feel more than ever impressed with the belief that it will lead to a productive lode.”

At Gonnemena Mine meeting, on Dec. 1, the accounts for July and August showed a credit balance of 2162l. 8s. 11d. A call of 2s. per share was made. Capt. R. Pascoe says:—“Our present costs in labour, merchants' bills, &c., will not exceed 200l. per month. We sold on Thursday last 46 tons of copper ore, which realised with the carriage about 190l.”

At Wheal Mary Hutchins meeting, on Nov. 28 (Capt. Tom. R.N., in the chair), the accounts showed a credit balance of 228l. 12s. 3d. All reports being charged up to the end of October. No call was required. The report of the manager, Mr. J. W. Gilbert, the manager, reported that since last meeting a railroad has been laid to the mouth of the pit, and a slope of ground taken away the whole length of the cutting. They would now commence to remove the overburden south of their present operations, which will make the pit 70 feet square, and when fully laid open good profits will be made, with an outlay of from 350l. to 400l. more.

At the Pontgibaud Silver-Lead Mining and Smelting Company meeting, at Paris, on Nov. 20, the dividend for the year 1865-6 was fixed at 20 fr. (23s. 6d.) per share.

At the Laguna Silver Mining Company meeting, on Nov. 27, it was unanimously resolved that a further issue of 517 shares, part of the original number, should be made, raising the total to 2000. On these 517 shares only 1s. per share will be called, until the unpaid amount of shares already issued has been called up. Another extraordinary meeting will be held on Friday next, to confirm the resolution. A call of 10s. per share of the previously issued shares has been made. Subscriptions for 166 of the 517 new shares were received at the meeting.

On the Stock Exchange only a limited amount of business has been transacted in Mining Shares during the week. The following quotations were officially recorded in British Mining Shares:—Great Laxey, 18 1/2; 18; Marke Valley, 3 1/2; Herodsfoot, 32; Mwyndy, 3 1/2; East Basset, 18 1/2; 19.—In Colonial and Foreign Mining Shares the prices were:—Yudannutana, 1 1/2; Chontales, 2 1/2; St. John del Rey, 5 1/2; 5 1/2; 5 1/2; 5 1/2; Cobre, 8; Pontgibaud, 7 1/2; Washoe, 1 1/2.

COAL MARKET.—The arrivals this week only amount to 53 ships, but nearly the whole were steamers of large tonnage. The mild weather has checked the demand for household coals, and prices quote a reduction of fully 6d. per ton. Hartley and manufacturing coals without change. Hetton Wallsend, 22s. 6d.; Haswell Wallsend, 22s. 6d.; Harton Wallsend, 19s. 3d.; Hetton Lyons, 19s. 3d.; Tunstall Wallsend, 19s. 3d. Cargoes unsold, nil; ships at sea, 75.

CONTRACT FOR COAL.—The Commissioners of the Admiralty require the supply of 2000 tons of South Wales Coal, delivered at Haulbowline, for Her Majesty's steamships and vessels.

MINING AND ITS PROSPECTS.—(From Peter Watson's “Weekly Mining Circular and Share List—Synopsis of Cornish and Devon Mines,” &c., of yesterday, Friday, Dec. 7, No. 400, vol. viii.)—“The market for mine shares has throughout the week maintained an activity that favourably compares with the general inactivity prevailing every other description of security. The fact that the price of tin is at least firm, and that the standard for copper advanced yesterday, should be accepted by the intending investor as an evidence that, when commerce improves, nothing is so likely to speedily and materially respond to the improvement as the value of metals. From the large number of eager purchasers that have lately appeared for shares in the mines which I have for some time past recommended, it would seem that the opinion expressed above is not confined to myself, and I need hardly say that I am only too pleased to find that those who have adopted my recommendation are in a position, if they so choose, to realise good profits. If evidence were wanting to prove the innumerable advantages of mining as a legitimate investment over other channels for the employment of capital, one need only refer to the proceedings that are daily taking place in our law courts. The year now nearly closed has been, perhaps, unparalleled in financial disaster, in connection with every description of joint-stock enterprise save that of mining, and it is not too much to say that the latter, although adversely affected by the price of metals, the result of the

otherwise general depression, if not productive of average profits to the investor has, at least, not involved him in direful losses, the end of which cannot yet be seen. This being the case, in such an exceptionally depressed period as that from which we are now emerging, the inference obviously must be that in ordinary times the results will be much more in favour of mining as a sound and profitable investment. The observing investor will not fail to avail himself of the present opportunity to secure at merely nominal prices a judiciously-selected interest in such mines, as contain, per se, the elements of a permanent success; but in this selection too much caution cannot be exercised. The public should ever bear in mind the fact, that it is not because a share in a mine can be purchased at a low price the mine itself is unworthy the attention of the investor; on the contrary, it often happens, from causes I need not now explain, that when shares have no actual market existence is the opportune period to purchase.”

THE TIN TRADE.—Mr. L. Th. van Houten (Rotterdam, Nov. 30) writes—The tin market has been very active this month, and a good business was done at advancing prices. For Banca, 46 1/2 fl. was paid in the beginning of the month, from which an advance to 48 fl. took place. After a slight decline to 47 fl., the market closes strong at 47 1/2 fl. Billiton—1000 slabs were sold at 45 1/2 fl. The following statement shows the position of Banca tin in Holland on Nov. 30, from the official returns published by the Dutch Trading Company:—

| Import in November              | Slabs      | 1866.      | 1865.      | 1864. |
|---------------------------------|------------|------------|------------|-------|
| Total eleven months             | 187,559    | 179,600    | 161,513    |       |
| Deliveries in November          | 25,900     | 12,300     | 4,318      |       |
| Total eleven months             | 177,855    | 126,152    | 151,427    |       |
| Stock second hand (on warrants) | 140,109    | 109,459    | 71,032     |       |
| Total stock                     | 200,733    | 199,759    | 137,880    |       |
| Quotation Nov. 30—New terms     | 47 1/2 fl. | 56 1/2 fl. | 56 1/2 fl. |       |

These returns, compared with those of 1865, exhibit a decrease of the import for November equal to 247 tons, an increase of the import for the eleven months equal to 263 tons, an increase of the deliveries for November equal to 428 tons, an increase of the deliveries for the eleven months equal to 1629 tons, an increase of the stock second hand equal to 955 tons, a decrease of the unsold stock equal to 935 tons, an increase of the total stock equal to 30 tons, and a decline in the quotation of 15l. per ton. The Government returns for September are—

| EXPORT OF TIN.  | September. | 1866. | 1865. | 1864. |
|-----------------|------------|-------|-------|-------|
| Germany         | 124        | 163   | 212   | 135   |
| Belgium         | 37         | 36    | 43    | 345   |
| England         | 57         | 108   | 256   | 528   |
| France          | 89         | 112   | 105   | 1128  |
| Hamburg         | 10         | 24    | 41    | 202   |
| United States   | —          | 70    | —     | 159   |
| Other countries | 19         | 88    | 189   | 269   |
| Total           | 336        | 601   | 846   | 4155  |

According to the official returns, the import of tin for consumption in France has been—

| September.      | 1866. | 1865. | 1864. |
|-----------------|-------|-------|-------|
| England         | 109   | 226   | 154   |
| Belgium         | —     | —     | 29    |
| Holland         | 104   | 126   | 367   |
| Other countries | 72    | 4     | —     |
| Total           | 273   | 396   | 521   |

Messrs. Von Dadelzen and North (Dec. 3) write—The amount of business reported during the month has been by no means large, and the same features have shown themselves as last month—a good consumptive demand, a small quantity offering in the market, and a reduced supply for the next few months. The deliveries in Holland have again been very large—26,200 slabs against 12,300 in the corresponding month last year. The arrivals in Holland during November were only 9000 slabs against 17,000 last year, while the total arrivals for next sale are only 60,000 against 90,000 last year. The shipments from Batavia during the last quarter were only 8000 pekuls against 19,000 in the previous quarter, and 30,000 in the first quarter this year—thus confirming our opinion that we had got over the very large shipments which had taken place during the previous twelve or eighteen months. The total reduction in the combined stocks during the month amounts to 300 tons, which is satisfactory. In dull times like the present we cannot look for any important advance, but with a return to activity we fully anticipate higher prices for tin. The position of the article is steadily improving. In Holland the market has improved on steady purchases for investment and to cover previous sales. The quantity of tin here and in Holland on Nov. 30 was as follows, compared with the three preceding years:—

| Slabs.                | 1866.   | 1865.   | 1864.  | Slabs. | 1866.  | 1865. | 1864.  |
|-----------------------|---------|---------|--------|--------|--------|-------|--------|
| Stock in Holland      | 140,109 | 109,459 | 71,032 | 2270   | 79,670 | 2790  | 79,670 |
| Arrived for next sale | 60,624  | 1940    | 90,800 | 2890   | 66,204 | 2120  | 50,358 |
| Billiton in Holland   | 416     | —       | 200    | —      | —      | —     | —      |
| Stock here            | 3408    | —       | 2942   | —      | 3531   | —     | 2592   |
| Total tons            | 10,248  | 9532    | 8221   | 7157   |        |       |        |

The quantity of tin now afloat for England is 519 tons, against 1498 tons last year.

THE COPPER TRADE.—Mr. Pitcairn-Campbell, Liverpool, reports—Copper continues to partake of the general flaccid, with considerable pressure of second-hand parcels of English on the market, which sell at very low and irregular prices. Quotations must also be reduced for foreign imports. Smelters remain firm, and it is to be hoped with a little patience that a revival in demand may shortly be witnessed. Quotations are 14s. to 14s. 3d. for ores and regulus, 7 1/2 to 7 1/2 for bars, 7 1/2 to 7 1/2 for ingots, and 15s. 9d. to 16s. for Barilla. Sales since my last have been—

|     |   |            |           |
|-----|---|------------|-----------|
| 16. | 50 tons Urmenita ingots, ex Caldera             | 80 0 0     |           |
| 16. | 350 tons ore, ex Prince Alfred                  | 0 14 3/4   | per unit. |
| 17. | 635 tons ore, ex Alpaca, in Swansea             | 0 14 3     |           |
| 17. | 600 tons ore, ex Rosetta, in Swansea            | 0 14 3     |           |
| 17. | 500 tons ore, ex Lemina, in Swansea             | 0 14 3     |           |
| 17. | 287 tons regulus, ex St. Bernard, in Swansea    | 0 14 3     |           |
| 17. | 70 tons Barilla, ex Kamehameha IV., in Havre.   | 0 16 0     |           |
| 19. | 516 tons ore, ex Rose of England, in Swansea    | 0 14 3     |           |
| 19. | 80 tons regulus, ex Rose of England, in Swansea | 0 14 3     |           |
| 19. | 327 tons regulus, ex Stranger, in Swansea       | 0 14 3     |           |
| 19. | 366 tons ore, ex Malda, in Swansea              | 0 14 3     |           |
| 19. | 5 tons bars, ex Tinto                           | 73 15      | per ton.  |
| 19. | 35 tons Urmenita ingots, ex Caldera             | 80 0 0     |           |
| 19. | 175 tons Urmenita bars, ex Caldera              | 73 0 0     |           |
| 21. | 110 tons Urmenita bars, ex Iron Queen           | 73 10 0    |           |
| 21. | 335 tons Moonta ore, ex Jessica                 | 0 14 3     | per unit. |
| 21. | 145 tons Urmenita bars, ex Caldera              | 72 10 0    | per ton.  |
| 21. | 15 tons bars, ex Misero                         | 73 10 0    |           |
| 21. | 14 tons bars, ex Aconagua                       | 73 10 0    |           |
| 25. | 340 tons regulus, ex Malda, in Swansea          | 0 14 3     | per unit. |
| 27. | 40 tons Cousina ingots, ex Egbert               | 80 0 0     | per ton.  |
| 29. | 335 tons Moonta ore, ex Jessica                 | 0 14 1 1/2 | per unit. |

Stocks of copper produce (Chilian and Bolivian) in first and second hands likely to be available are as follows:—

| Ores.  | Regulus. | Bars. | Ingots. | Barilla. |
|--|----------|-------|---------|----------|
| Liverpool  | 2085     | 1935  | 856     | 889      |
| Swansea  | 8941     | 6228  | 37      | 64       |
| Arrivals from the West Coast, S. Am., during the past fortnight— |          |       |         |          |
| Mersey, San Antonio  | —        | —     | 225     | —        |
| Kamehameha IV., Africa   | —        | —     | —       | 140      |
| Iron Queen, Guayaquil  | —        | —     | 330     | 180      |
| Barracouta, Talcahuano   | 50       | —     | —       | —        |
| Andes, Valparaiso  | —        | —     | 25      | —        |
| Egbert, Valparaiso   | —        | —     | 225     | 210      |
| Molican, Valparaiso  | —        | —     | 135     | —        |
| At Swansea—Deerslayer  | —        | —     | 490     | —        |
| Theta  | 550      | —     | 228     | —        |
| Knowlesy   | —        | —     | 860     | —        |

Messrs. Vivian and Younger (Dec. 7) write—On Monday last the smelters reduced their rates 5d. per ton all round on copper, and 1/4d. per lb. on yellow metal. In a sense, this reduction had been fully discounted, for all descriptions could have been bought before the fall was declared under the reduced rates, and second-hand copper is still offering lower than smelters' quotations. But there were many orders for both consumption and shipment which for various reasons were being held back till it was seen what the smelters would do. Since the drop these orders have been given out, and at the close we can report a steadier though not a much better market. The letters received by the Chilian mail, delivered late on the 1st inst., advised charters for about 950 tons of copper concentrate for England, and 500 tons for America. The prices had advanced considerably in Chile, and it was asserted that the only reason for more business not having been done in the article was the deficiency of stocks. The shipments for the third quarter were 9500 tons of fine copper, instead of 11,000 tons, as previously advised. Prices during the week have altered but little; if anything they are a little higher than they were. The general business has been fair, but we have no special transactions to report.

MR. D. STICKLAND, M.E., having had upwards of 40 years' mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE GOOD ADVICE thereon.

Mining, Railway, and other Shares bought, sold, or exchanged. Shares for sale in mines and quarries that will pay 15 to 20 per cent. per annum.

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NOTICE OF REMOVAL.

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MINING ENGINEER AND CONTRACTOR.

MR. THOMAS TREDINNICK,  
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PUBLIC COMPANIES PROMOTED.—The ADVERTISER is OPEN TO INTRODUCE SCHEMES TO THE PUBLIC, PROMOTERS and CONCESSIONAIRES ASSISTED IN PUBLISHING PROSPECTUSES; RAILWAY and other SHARES and DEBENTURES PLACED.—Address, “K. B. K.,” MINING JOURNAL Office, 26, Fleet-street, London.

BRECONSHIRE, MID-WALES.—SLATE QUARRIES TO LET, near NEWBRIDGE-ON-WYE.—Apply to Mr. PRATT, Crickhowell.

TO MINING AGENTS AND DIRECTORS OF LEAD MINING COMPANIES.

MESSRS. WESTON AND COLLINGBORN, of No. 18, PETER STREET, BRISTOL, having fitted up an establishment at SWINFORD, near BITTON, BRISTOL, for the SMELTING and REFINING of SILVER-LEAD and the other qualities of LEAD ORES, are now prepared to PURCHASE by TENDER, or otherwise, LEAD ORES in any quantities that may be offered to them.—Swinford, near Bitton, Gloucestershire, Oct. 5, 1866.

TO MINE, SLATE QUARRY, AND RAILWAY COMPANIES.—CAPT. C. WILLIAMS is NOW OPEN TO UNDERTAKE ALL KINDS OF CONTRACTS, such as DRIVING LEVELS, SINKING SHAFTS, CONSTRUCTING WATER COURSES, CANALS, TRAMWAYS, &c., and ERECTING ALL SORTS OF MACHINERY for MINING and OTHER PURPOSES, having on hand at all times a first-class staff of miners and machinists, who will proceed to any part of the world upon the shortest notice.

N.B.—In all cases 30 per cent. will be left in hand until the work is complete.

Tyn-y-Wern, Taliesin, via Shrewsbury.

NOTICE.—CAPT. S. M. RIDGE, of LLANIDLOES, MONTGOMERYSHIRE (late manager of the Brynastig and Cwm Ffion Mines, and others, in Shropshire and Wales), is NOW OPEN TO INSPECT and FAITHFULLY REPORT UPON ANY LEAD MINE in either of these localities that may be confided to his care, having had better than 30 years' experience in lead mining, as miner and agent.—Address, Capt. S. M. RIDGE, Llanidloes, Montgomeryshire.

| LEAD ORES. |                |       |          |                        |
|------------|----------------|-------|----------|------------------------|
| Date.      | Mines.         | Tons. | Amount.  | Purchasers.            |
| Nov. 29.   | Wheal Mary Ann | 50    | £24 11 0 | R. Michell and Son.    |
| "          | ditto          | 28    | 12 15 6  | Sheldon, Bush, & Co.   |
| 30.        | Minera         | 50    | 12 12 6  | Walker, Parker, & Co.  |
| "          | ditto          | 50    | 12 12 6  | Mining Co. of Ireland. |
| "          | ditto          | 50    | 12 12 6  | ditto                  |
| "          | ditto          | 50    | 12 12 6  | Walker, Parker, & Co.  |
| "          | ditto          | 50    | 12 12 6  | ditto                  |
| Dec. 5.    | Harwood        | 25    | 13 10 0  | Locke, Blackett, & Co. |
| "          | ditto          | 25    | 13 10 0  | London Lead Co.        |

BLACK TIN.

Wheal Mary Hutchins sold, since Feb., 19l. 12c. 2q. 10lbs., for 911l. 15s. 5d.

| BLENDE.  |             |       |                |                  |
|----------|-------------|-------|----------------|------------------|
| Date.    | Mines.      | Tons. | Price per ton. | Purchasers.      |
| Nov. 30. | Minera      | 79    | £4 0 6         | Kenrick and Son. |
| "        | ditto       | 49    | 3 11 0         | H. Southern.     |
| "        | ditto       | 49    | 3 11 0         | Kenrick and Son. |
| "        | ditto       | 42    | 3 12 0         | Vivian and Son.  |
| "        | ditto       | 14    | 4 2 6          | Kenrick and Son. |
| Dec. 5.  | Coetia Llys | 125   | 3 12 0         | —                |
| "        | Maesyrwddu  | 56    | 2 8 0          | —                |

| COPPER ORES  |       |          |        |            |       |          |         |
|--|-------|----------|--------|------------|-------|----------|---------|
| Sampled November 13, and sold at Swansea December 4. |       |          |        |            |       |          |         |
| Mines.   | Tons. | Produce. | Price. | Mines.     | Tons. | Produce. | Price.  |
| California   | 105   | 8 1/2    | £5 8 6 | Newfound   | 75    | 11 1/2   | £7 12 0 |
| ditto  | 100   | 8 1/2    | 5 9 0  | land       | 20    | 2 1/2    | 14 17 0 |
| ditto  | 97    | 9 1/2    | 5 13 6 | California | 39    | 2 1/2    | 0 16 0  |
| ditto  | 93    | 9 1/2    | 5 12 0 | Wallaroo   | 110   | 11 1/2   | 7 13 6  |
| ditto  | 85    | 9 1/2    | 5 12 0 | Moonta Ore | 59    | 17 1/2   | 11 11 0 |
| ditto  | 40    | 9 1/2    | 5 13 6 | ditto      | 51    | 17       | 11 13 0 |
| Newfound   | 82    | 14 1/2   | 9 3 0  | Cranebane  | 48    | 7        | 4 11 0  |
| land   | 80    | 13 1/2   | 9 3 0  | ditto      | 14    | 30       | 20 7 6  |
| TOTAL PRODUCE  |       |          |        |            |       |          |         |

| TOTAL PRODUCE.     |     |      |            |                 |                    |
|--------------------|-----|------|------------|-----------------|--------------------|
| Californian Ore .. | 520 | .... | £2888 18 0 | Wallaroo .....  | 110 .... £ 844 5 0 |
| Newfoundland ..    | 257 | .... | 2349 6 0   | Moonta Ore..... | 163 .... 1194 15 0 |
| Californian .....  | 39  | .... | 31 4 0     | Cranebane ..... | 62 .... 503 13 0   |

| COMPANIES BY WHOM THE ORES WERE PURCHASED. |        |           |  |  |
|--|--------|-----------|--|--|
| Tons.                                      |        |           |  |  |
| Copper Miners' Company                     | 17 1/2 | £200 4 0  |  |  |
| Freeman and Co.                            | 82     | 750 6 0   |  |  |
| Grenfell and Sons                          | 68 1/2 | 794 7 0   |  |  |
| Sims, Williams, & Co.                      | 14     | 285 5 0   |  |  |
| Vivian and Sons                            | 139    | 1060 4 0  |  |  |
| Williams, Foster, & Co.                    | 75     | 870 0 0   |  |  |
| Mason and Elkington                        | 17 1/2 | 200 4 0   |  |  |
| Bankart and Sons                           | 43 1/2 | 422 2 6   |  |  |
| Charles Lambert                            | 469    | 2337 13 6 |  |  |
| Penclawdd Copper Co.                       | 160    | 991 15 0  |  |  |
| Total                                      | 1091   | £7812 1 0 |  |  |



WATSON AND CUELL,  
MINING AGENTS, STOCK AND SHARE DEALERS, &c.  
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Messrs. WATSON and CUELL having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

is producing 5 tons of copper ore per fm., and a slope 7 tons. At the 76 there is a cross-cut to the north lode, which at the 50 and 60 produced good quality copper ores; and it is expected it will be met with at the 76 in about 7 fms. driving.

products of coal tar; and the detailed consideration of the manufacture of gas, and asphaltic products thereof; and the Products of the distillation of bituminous shale—pyrryl, bitumen, petroleum, &c., are each treated of, and in a manner which cannot fail to be generally satisfactory. The tenth chapter is devoted to the Compounds of cyanogen, then follows chapters on the Albuminoid and gelatinous principles; on the Chemical properties of some of the solids and fluids of animal origin; and on the Nutrition of plants and animals respectively—the concluding chapter, the fourteenth, containing an explanation of the

\* "Elements of Chemistry: Theoretical and Practical." By WILLIAM ALLEN MILLER, Treas. and V.P.R.S., P.C.S., &c. London: Longmans, Paternoster-row.

**USEFUL INFORMATION FOR ENGINEERS.**—The third series of **MR. W. FAIRBAIRN'S** Manuals bearing this title has just been issued (through Messrs. Longmans) in the form of a handsome little volume of some 330 pages. To the six lectures a large amount of information is added, which cannot fail to prove of great interest and value to the student. Referring to George Stephenson, Mr. Fairbairn considers that he "could scarcely be called an inventor or a man of great intellectual capacity," but he is willing to "accord to him the merit of a hard worker, a distinguished engineer, and a man of indomitable perseverance." Such an opinion of a man whose intellect has revolutionised the world, and formed the basis of every change which has taken place either in the old world or the new during the past half-century, would scarcely have been hazarded by anyone but a man of such established reputation as Mr. Fairbairn, unless, indeed, it were by one of those who have never learnt the indisputable truth that "the wise alone can afford to praise, the foolish must condemn." But for Stephenson the very race to which Mr. Fairbairn belongs would not have had existence. It is from such Stephenson intellect that the entire present generation of engineers have drawn their sustenance, as the mistletoe does from the oak. The chapter on the Construction of Iron Roofs is really admirable, and well worthy of attentive study. The book is enriched with an abundance of engravings, which greatly facilitate the profitable reading the various subjects treated of.

SOUTH CALLINGTON.—The notice from the anonymous correspondent in last week's *South Callington* somewhat surprised me. I certainly have never seen a report from South Callington where there has been a point valued. Had there been a point to value, depend upon it the mine would not now be selling at about the rate of 2000*l.* for the entire property. The mine is open to the inspection of any shareholder, and to a shareholder I shall be happy to afford every information.—J. B. REYNOLDS, Sec.

**THE DEEPEST COAL-MINE IN ENGLAND.**—In reply to the enquiry of your correspondent for the name of the deepest coal mine in England, permit me to state that the Dukinfield pit, near Manchester, is one of if not the deepest mine, being 2655 feet deep. It has been found that the increase of temperature in the air of the mine is about 1° for every 100 feet of descent, the surface being 24° 30', or at the rate of 1° for each 84 feet; but no useful conclusion can be drawn from the fact, because, taking the distances in two portions, the increase was from 20 feet to 635 feet 1° in 99 feet, and from 635 feet to 2655 feet 1° in 2020 feet, the increase in heat was due rather to the workings than to any other cause.—F. F.

WORKINGS CLUB to do a good Cause.—P. J.

WINE, TREVENNA, AND ITS MANAGEMENT.—Seeing the remarks of a "Shareholder" [Manchester] in last week's Journal, permit me to state that I am not at all of the opinion that the shareholders began to revolt some time after their patience and outlay. Surely, after three years' working, and the expenditure upon the mine and amongst the officials of about 1000*l.*, with the working expenditure trifling compared with other mines, good returns ought to be forthcoming, and dividends instead of calls should be the subject discussed at the meetings. I believe, as a Manchester shareholder, that too much power is vested in directors, many of whom, perhaps, hold but a limited interest. If shareholders would elect some of their own number as directors, and make them responsible to the shareholders, I think they might naturally suppose that the mines would be worked with more economy, instead of carelessness in working and extravagance in expenditure. As a shareholder from the formation of the company I have still patience, but think there should be some appearance of business.—P. J.

LONDON, DECEMBER 8, 1866.

The low price at which copper now stands, and the consequent inactivity at many mines, where the yield is not of high percentage, renders the question of production a very important matter both to the proprietor and consumer. The unit is now only 14s., yet the demand for the metal continues, and the supply must be kept up from one source or another. At home various projects are in contemplation for working the poorer ores, by such methods of economical dressing and extraction, that those of low yield may be brought to a point equivalent in market value to the richer mines; but the point to be considered is, whether such processes, even if successful, will be sufficient to remove the difficulty, or that this country must look to our colonies, and other places, for the necessary means of making the supply equal to the demand. It is, therefore, important to look at the results of various transmarine mining enterprises, and so endeavour to see from what quarter there is the best chance of obtaining that which is required, with benefit to those who sell. In our last publication we gave a report of the proceedings of the meeting of shareholders of the Panulcillo Copper Company (Limited), which is an undertaking established by English capital, for mining purposes in Chili. It has been prosecuted with vigour, and about 150,000*l.* expended in developing the resources of the property, with a success that has enabled the company to divide dividends of 10 per cent. During the last half-year of their accounts 19,630 tons of ore, averaging 5 per cent., had been smelted, and produced 2960 tons of regulus, of 33½ per cent., which, at the present rate of 14s. per unit, is equivalent to 23*l.* 9s. per ton of regulus, or a total of 69,412*l.*; and as the expenses and charges, including freight, were estimated at 21*l.* 12s. 9d. per ton, or 64,047*l.*, the profit left was 5365*l.*, or about 1*l.* 16s. 3d. per ton. Passing to Australia, whence we draw such large supplies of this ore, and in many cases of high percentage in its natural state, we find that the celebrated Burra Burra does not yield according to the Secretary's statement, which has been made public.

These particulars are sufficient to show that, with the exception of the Blinnan, none of these properties give a better return of crude ores as to percentage, or as respects ore against metal, than those of Cornwall or Devon; but the quantities are large, and the means of conversion into regulus or metal is not only cheap in Australia, but the best for such purposes, wood being only about 10s. per ton. As respects Chili, this does not apply, but the contrary. A heavy expense has to be incurred in sending coals from this country, which, of course, is a serious drawback in producing beneficial results. There seems, therefore, no reason for depending on the part of the British copper miner, and attention and care will enable him to cope with the foreign mines of equivalent yield, although it is impossible to come into competition with those which produce ore of extraordinary high percentage and in such large quantities. This country has always looked for, and had large quantities of, copper from other places to meet the requirements of increasing population and extension in the use of the metal; but we do not believe that the increase in the imports is greater than what is relatively necessary to keep pace with trade and commerce. Our own production does not meet the demand; but there is no reason why home enterprise in the base metals should not maintain its ground. Hitherto our supplies have been chiefly from Chili, Cuba, Australia, Spain, and other countries in smaller quantities. During the ten months of this year, to which date the official returns are made up, the imports amounted to 74,066 tons of copper ore, while the amount for the same period of 1865 was 61,650 tons, Chili, Australia, and "other countries" showing an increase, and Cuba and Spain a decrease. Of regulus there was imported 28,866 tons, which were exclusively from Chili, excepting 3555 tons from other countries; but this aggregate was only 203 tons over the total of last year. In addition, unwrought and part wrought copper was brought in to the extent of 273,080 cwt., against 321,980 cwt. in 1865, consequently a decrease of 48,900 cwt., Chili having furnished 162,820 cwt., Australia 61,900 cwt., and other countries 48,360 cwt., the first being a decrease of 73,600 cwt., the second an increase of 33,980 cwt., and the last an increase of 720 cwt. We believe that when this depressing year of 1866 has gone into the past a better tone will pervade all mining industry, and no doubt due consideration will be given to this most important matter of rendering mines remunerative which only produce low class ores, that the business in this article of commerce may not be absorbed by our colonies and foreign countries, but that each may preserve their accustomed proportion of supply.

It has for so long a time been customary to regard Unionism as a perfectly chronic state of mind for colliers, ironworkers, and operatives generally to be in, that it has created much surprise to find that a society has actually been organised by a number of working men to oppose the Union and its leaders. This movement has originated in the strike of miners in connection with the Staveley Collieries, the managers of which wisely determined to conduct their affairs in their own way, without dictation or interference from the Union. This brought down upon them the direful vengeance of the said Union, which has been growing in strength in the South Yorkshire and Derbyshire district for some time. It was in this district that a good deal of the agitation with respect to the grievances of the miners originated. This, it will be remembered, led to the appointment of a Royal Commission, which sat last session, and examined witnesses from the men, from the Mine Inspectors, and from the employers. This seems to have invigorated a few of the men, who occupied a very prominent part in connection with the arrangement of witnesses for the men, and so forth; and when they returned to their constituents they immediately set about developing the Union and strengthening their hands. They made various attempts to stir up the flagging zeal of the Staffordshire men; but the colliers in that locality had experienced quite enough of the Union when they had their strike in 1863, and hence they now declined to have anything to do with the Yorkshire men. The Union in the Yorkshire district was further strengthened by a victory which they gained over one proprietor, and they then appear to have been instigated to attempt to make their organisation felt in all the collieries of the district. The result was that the Staveley Company, who have always paid good wages, and who were generally regarded as amongst the best masters in the country, were singled out by the Union, and so a strike ensued. The men employed were turned out of their houses, but the Union built huts for a portion of the men on strike, while, of course, the firm were sadly inconvenienced, owing to their being unable to proceed with their contracts. At one time the matter seemed likely to lead to a protracted and bitter strike; but suddenly a new movement was originated, showing that a considerable number of the men were well aware of the folly of the strike, and of the policy of the Union leaders, and that they did not mean to be mere passive spectators of the struggle, but were determined to do what they could to prevent its going on. These men have been holding meetings of late, in different parts of the affected districts; they have organised an Anti-Union Society, and are exercising their whole influence in putting an end to the dispute. This is really such an unusual proceeding, that the remarks made at one of the meetings, by the leading speaker, deserve more than a mere passing notice. The Chairman said they had met to see if something could not be done to put an end to the confusion and distrust which prevailed amongst them. They might depend, if things went on as they were, they would all have to suffer, and so would their wives and children. He hoped they would not be led away by the promises of support that had been held out to them. Unionism was setting man against man, and class against class. For his own part, he would rather put his money in the Savings' Bank than in the pocket of Union agents.

Another speaker said he could tell of many instances of misery brought on through strikes, but, he would ask them had they ever



known such things do good? To which a chorus of voices replied, "Never." Another said he would never give his money for men to go up and down the country causing strife and misery, and for the delegates to ride about, and give out with their tongues only one side of the question. He had prospered since he left the Union, and stuck to his work, and minded his own business, and he urged every one else to do the same. Others speakers followed, and all dilated in strong terms upon the mischievous nature of Union principles and proceedings. These meetings, and the formation of this Anti-Union Society, must be regarded as most hopeful signs, inasmuch as they furnish reliable indications that the working classes are becoming alive to the sad losses which they have inflicted on themselves by their repeated strikes. So long as all the advice to the men proceeded from classes outside of the working men's society, it was only natural that they should suspect interested motives, and should be very chary in taking notice of the counsel given to them; but now that it comes from their own ranks—from men who have had much experience of the effects of strikes, it may more reasonably be expected that it will have a silent but powerful effect. They may rest assured that Unions, in their aggressive form, are sure to bring evil consequences in the long run, and it is to be hoped that men will before long grow wiser than to trust their best interests, and the welfare and happiness of their families, to the keeping of some ranting demagogue, who cares nothing what the consequence may be so long as he can live well at other men's expense, and can occupy the proud position of "a leader of the people."

## FOREIGN MINING AND METALLURGY.

The situation of the Belgian blast-furnaces has not sensibly improved in the matter of sales, and has grown worse as regards the price of coal. It is calculated, indeed, comparing the present month with December, 1865, that the furnaces have now to pay about 5s. 6d. additional per ton produced for the coal consumed under the form of coke. Account must also be taken of the coal consumed in boilers or in hot-air apparatus, and when this is added the definitive additional cost in producing pig iron as compared with December, 1865, is not less than 8s. 6d. per ton. When the calculation is extended to the production of iron, the additional cost involved by the dearth of coal is estimated at 15s. 3d. per ton. In presence of this serious increase in the cost of production the selling prices obtained have experienced no sensible advance. The La Haye Collieries Company, at Liège, commenced the payment on Saturday of a second dividend for the exercise 1865-6, or 11. per share. The Hoerde Mines and Ironworks Company will pay on Jan. 2, 1867, a dividend at the rate of 10 per cent. for the exercise 1865-6 (20 thalers per share). The New Orge Mines and Ironworks Company will pay on Jan. 2, 1867, a dividend of 10 thalers per share for the exercise 1865-6. Meetings are announced as follows:—Léveur du Fier Collieries Company, Dec. 6, at Brussels; and Belgian General Company for Lighting and Heating by Gas, Dec. 29, at Brussels.

It appears that in its last financial year the Ougree Blast Furnaces Company, after making large redemptions of capital, realised a rough profit of 17,448. After making a further deduction from this amount of 10,820, for general expenses, interest on loans, &c., the balance of 6,628, was allocated as follows:—5625, was absorbed in a dividend of 10s. per share, 795, was handed to the Council of Administration and the Commissioners as their share of the profits, and 208, was carried forward. The two pits being no particularly important business was set down for consideration. The results of the past exercise, after providing for an important redemption of capital admitted of a dividend of 12s. per share. A shareholder enquired the opinion of the Council of Administration as to the probable future of the Ivance establishment in Austria, acquired some years ago by the company, and which has hitherto yielded only negative results. It was replied that at present the prosperity of the Ivance Works has been checked by the difficulty experienced in reducing minerals, which are found very abundantly in the neighbourhood, by means of lignite, but researches which have been made on the subject have been crowned with success. This important industrial problem has been now solved, and the administration has the certainty of producing metal on favourable conditions, while employing lignite as a combustible; at present the company has four furnaces in blast at the Ivance Works; a fifth will be brought into activity next month, and a sixth will follow. Following the example of the Corphalle Works, the Ivance establishment will occupy itself solely with the fabrication of zinc. The important mines of the company are situated in the neighbourhood of the present, because it is assured for eight years to come minerals extracted either from the mines of the Government, or from the mines of private individuals, so that the company will not require to immobilise its capital in exploratory works. It is expected, then, that the Ivance Works are about to enter upon a new phase of their existence, and it may be remarked that the accounts of the first six months of the current year presented a net balance of profit of about 200. An interesting debate was raised with reference to the maintenance of the price of zinc at a high point. The report of the directors attributed the present elevation of prices to a diminution in the production of zinc in Silesia. This fact is indicated by the Breslau Chamber of Commerce, which sees with regret that the production of zinc in Silesia diminishes to the extent of about 1200 tons per annum, the reduction being due to the smaller production of mineral, and to its diminished strength.

The imports of pig iron into France in the first nine months of this year amounted to 113,000 tons, of which 70,700 tons were introduced duty free, and 42,300 tons with payment of duty. During the corresponding period of 1865, 125,800 tons of pig were introduced into France, of which 71,500 tons were admitted free of duty. There has thus been a diminution of 12,800 tons in the introduction with payment of duties for the first nine months of the current year, as compared with the corresponding period of 1865, while as regards the admissions free of duty the difference is only about 1000 tons. The imports of iron and plates into France present an increase of 10,000 tons during the first nine months of 1866, as compared with the corresponding period of 1865; this augmentation arises almost entirely in the introductions free of duty. The imports of minerals into France during the first nine months of this year amounted to 354,300 tons, as compared with 291,500 tons during the corresponding period of 1865; the imports present, then, a diminution this year of nearly 10 per cent., as compared with the first nine months of 1865. One feature worthy of remark in the statistics referring to the imports of minerals into France is the tendency to change and variation displayed by the various sources of production. Thus Belgium, which sent France 182,000 tons of minerals during the first nine months of 1865, only forwarded 110,000 tons during the same period of this year, while Algeria, which, during the corresponding period of 1865, only sent 34,000 tons, figures in the statistics of this description of imports for the first nine months of 1866 for 73,000 tons. We have accordingly to notice an increase in the deliveries from Algeria, and a decrease in those from Belgium. The exportation of minerals from France presented a certain progress; thus it attained a total of 134,200 tons during the first nine months of this year, as compared with 118,500 tons during the corresponding period of 1865. We find in a bulletin issued by the French committee of foreign masters a table showing in detail the importation of Swedish iron into France during the years between 1855 and 1864. It would seem that the employment of Swedish iron, after having experienced a very notable augmentation in the first years following the Treaty of Commerce, has rather sensibly diminished during the last two years. It is curious to observe the development which the fabrication of steel has taken in France during the last few years. Thus, while one of the six great railway companies of France paid 37. 8s. per ton for steel rails in 1859, the price had sunk in 1861 to 29. 12s. per ton, and in 1863 to 29. 4s. per ton. In 1863 the company gave out its first order for Bessemer steel rails, which it procured at 29. per ton, although it had to further increase the payment to 22. per ton in the year 1864. In 1865 prices ranged between 16. 10s. and 20. per ton, and, finally, during the current year they have come down to 15. 16s. Between the 37. 8s. per ton paid for steel rails in 1859 and the 15. 16s. per ton paid in 1866 the difference is truly surprising. The general position of French siderurgical industry remains the same; the syndicate of forges of the Comté district considers the position of producers of charcoal-made pig as unnatural—in that the sale price does not bear a due ratio to the cost price; but it appears clearly established that the sale of the iron has become more difficult during the last few months. The forgers of the Comté district have decided on maintaining the quotation for pig at 62. 13s. 6d. per ton. The deliveries of Ruhr coal to France and Belgium appear to be acquiring more and more development; the Rhein-Eifel Company, near Gelsenkirchen, has just forwarded an entire train of coal to Paris. Now that Germany is no longer divided into a number of little States, which rendered the development of industry impossible—great industrial questions being submitted to the individual decision of each State,—its industry will be enabled to sensibly improve. The collieries of the Ruhr have been visited by several competent engineers, who have found the Prussian coal-workers quite disposed to accept low prices for contracts of a certain importance; the report of the inspecting engineers on the quality of the coal produced was also satisfactory. The undertaking known as the Hauts Fourneaux, Forges, et Aciéries de la Marine et des Chemins de Fer commenced the payment, Nov. 30, of 11. 8s. per share, being the first half of the dividend of the exercise 1865-6. Meetings are announced as follows:—Cruz Mines Company, Dec. 10, at Paris; Abun Collieries Company, Dec. 12, at Paris; Anglo-Tuscan Mineralogical Company, Dec. 15, at Leghorn; Charlotte Collieries Company, Dec. 22, at Paris; Imphy St. Saurin Steelworks Company, Dec. 28, at Paris; and Gennamari and Ingurtoni (Sardinia) Argenti-ferrous Lead Mines Company, Dec. 28, at Paris.

Chilian copper has remained stationary at Havre at 76. per ton, at which price some lots, as well as disposable as to be delivered, have been placed; at the last dates holders were offering the article on these terms, without finding purchasers. At Paris, English copper has fallen to 82. and Chilian to 76. 8s. per ton. The advices received from Germany present very little interest; the demand is almost nil, and the general tendency is downwards; at Hamburg especially the prices of English and Australian have been in favour of purchasers. At Amsterdam, Drontheim has made 23. 6s.; English, 17. 6s. to 4. 6s.; and Swedish, 4. 6s. At Rotterdam, Drontheim has made 20. 10s. to 22. 12s. At Havre, Chilian and Peruvian, in bars, has been quoted at 76. to 76. 10s.; Peruvian mineral (pure standard), 79. to 80.; United States, Baltimore, 94. to 96.; ditto, Lake Superior, 94. to 114.; Mexi-

can and Plata, in bars, 73. to 75.; Russian, 89. to 91.; old yellow copper, 53. to 57.; red ditto, 76. to 78.; bronze, 72. per ton. At Paris, English, in plates, has made 82., and Corocoro mineral 80. per ton. Tin remains in about the same state, the fluctuations which have taken place in prices being very small; nevertheless, the tendency has been better. On the Dutch markets the demand has been moderate, and Banca has oscillated between 47. 6s. and 47. 1/2. 6s.; at this last quotation it is reported that 1800 blocks have been recently dealt in at Rotterdam. There has been no salient affair or striking change to report in the tone of tin on the German markets. At Rotterdam, Billiton has made 46. 6s. At Paris, Banca has made 86. to 87.; Straits, 86.; and English, 83. per ton. At Havre, Banca has made 85. to 86., and Peruvian 68. to 80. per ton. The lead markets have continued quiet, and there are scarcely any modifications to report in prices. At Rotterdam, Stolberg has made 11. 1/2. 6s., and German has also realised the same price. At Amsterdam soft lead has made 12. 1/2. 6s. to 12. 3/4. 6s. At Paris, Spanish saumons have brought 20. 12s., and French 20. 8s. per ton. At Havre the quotation for Spanish and other lead has been 19. 16s. per ton. Transactions in zinc have been extremely active on the regulating markets, and the article has been sustained at a sensible advance. At Hamburg the demand has been brisk, and from Breslau the advices have been no less favourable; ordinary marks have easily found purchasers, and producers, who have still some parcels to sell, demand higher rates, calculating on a very active enquiry during the first few months of the new year. At Paris rough Silesian has made 22. 12s. per ton. At Havre zinc has been quoted from 21. 12s. to 22. per ton.

As regards miscellaneous items, we may note that the Moselle Collieries Company proposes to make an issue of obligations. The intention is again attributed to the Prussian Government to transfer its Saar collieries to private industry. Several new Prussian lines of railway are projected. Industrial values have been well supported on the Brussels market; colliery shares have been in demand, and shares in blast-furnaces have also given rise to a considerable number of transactions. The revenue of the Parisian Company for Lighting and Heating by Gas to Oct. 31 increased 6.27 per cent., as compared with the corresponding period of 1865. The Prussian Government has just sold the State forge of Sayn to Herr Krupp, of Essen. The coal of the Ruhr is becoming every day more and more sought after in Belgium. Several Liège industries continue to make great use of this coal, which arrives there daily as well as at Antwerp.

## REPORT FROM SCOTLAND.

GLASGOW, DEC. 5.—The returns of the stock of Pig-Iron in store for the month ending Nov. 30 have been made up, and show—  
In store at Glasgow, 1865.....Tons 350,387  
" " 1866.....344,701  
" at Ardrossan, 1865.....15,350  
" " 1866.....15,366  
The stock in store at Glasgow has been reduced by 30,670 tons, while at Ardrossan there is no change. The average price in November was 53s. 6d., and for the first 11 months of the year the averages were—

|                | 1865.    | 1866.    |
|----------------|----------|----------|
| January.....   | 68s. 4d. | 49s. 9d. |
| February.....  | 71 1/2   | 50 4 1/2 |
| March.....     | 77 3     | 50 10    |
| April.....     | 78 4     | 53 9     |
| May.....       | 57 0     | 54 1     |
| June.....      | 54 9     | 54 9     |
| July.....      | 53s. 6d. | 54s. 7d. |
| August.....    | 52 6     | 54 9     |
| September..... | 54 8     | 57 4     |
| October.....   | 54 3     | 57 10    |
| November.....  | 53 6     | 58 0     |

Of the furnaces in blast there were only 97, against 137 same month last year. There was greater buoyancy in our market last week, and prices advanced 6d. a ton, and a very steady, healthful business was transacted; a little speculation, however, would do our market no harm. The shipments of the week were rather limited, 10,200 tons being the amount, against 12,450 tons in the corresponding week of last year. To-day the market was firm, but little business was done, at 53s. 9d. and 53s. 10 1/2. Malleable iron is in no better position, and orders are becoming more scarce. Third and half-time is all that malleable workers get employment for; and ironfounders are not very much better off for work. Coals are in fully better demand for shipment, at the reduction of 1s. a ton, having this week reached 32,765 tons, while in the same week of last year they only amounted to 24,530 tons. On the authority of the President of the Miners' National Association agents are in Scotland trying to persuade colliers to accept of employment at the mines in Lancashire. The President, Mr. McDonald, warns the men in an address "not to be deceived," but to "defeat the object of the employers by any means now available." In an "N.B." the same authority adds—"Rumour has it that a man has left Armadale to examine the pits and bring back a report thereon. For the work he is to receive six pieces of gold, and more if he 'puffs' well. It may be right to say that the party who has gone on that mission is a native of Wales, but retail beer in the village of Armadale. This the men must know."

The number of Cornish miners continues to increase, and, judging from those we had an opportunity of visiting, they are a tall, able-bodied staff of men. They professed to be pleased with their change, and if there were not truth in the profession we expect the numbers would speedily diminish.

The manufacture of mineral oil is nearly at a stand, and although this slackness has been prolonged for some time, there is not yet the appearance of the resumption of business. We regret that in our letter of Nov. 24 a "report" regarding the Bathgate Oil Works of Messrs. Young and Co. was transmitted, as the secretary to the company informs us that it was incorrect, and we, consequently, withdraw the entire statement.

The shipbuilding trade on the Clyde continues dull, and several firms are finishing off their last contract. Last month, however, several steamers were contracted for, principally by Clyde owners, but builders are by no means even moderately engaged. The number of vessels launched from the yards on the Clyde during the month and eleven months ending Nov. 30 was as follows, as compared with two previous years:—

|   | Vessels. | Tons.   |
|---|----------|---------|
| Month ending Nov. 30, 1865.....         | 14       | 12,300  |
| " " 1866.....                           | 19       | 15,730  |
| " " 1864.....                           | 18       | 19,760  |
| Eleven months ending Nov. 30, 1865..... | 176      | 108,000 |
| " " 1866.....                           | 237      | 142,800 |
| " " 1864.....                           | 200      | 166,050 |

A statement, copied from a French paper, regarding the insolvency of Scott and Co., shipbuilders, St. Nazaire and Greenock, is happily inaccurately reported. The Greenock engineering and shipbuilding firm is not the same as the French firm, only one of the partners of the Greenock firm being engaged in the establishment at St. Nazaire. The Greenock firm is considered perfectly sound; and it is said that the liabilities of the French firm are not very large, and confined to France.

Yesterday the boiler at Park Building Yard, Whiteinch, exploded with considerable violence, causing the death of the engineer, and injuring others. The boiler was comparatively new, and this renders the fatal occurrence more mysterious. Enquiry is being made into the affair.

## REPORT FROM NORTHUMBERLAND AND DURHAM.

DEC. 5.—The Coal and Coke Trades here continue brisk, with an excellent prospect for the winter. The late complete stagnation in the iron trade only affected the coal trade to a limited extent, and this shows most clearly that this, the most important staple trade of the district, is in a most healthy state. The demand for the best house and steam coal continues good, and the prices received, especially for house coal, is good. The demand for coke and manufacturing coal will now be largely increased, the ironmen having gone in almost to a man—that is, where employment can be found for them. In many cases, indeed in the majority of cases, the full complement of men has not yet been employed. A large fleet of ships arrived in the Tyne during the last few days, and the river and principal docks are crowded. Among the arrivals are numbers of large ships, and among them the largest sailing vessel belonging to the Tyne; this is the "E. A. Bright," lately purchased by Hall Brothers, of Newcastle. This magnificent vessel was, until lately, one of the Liverpool Black Ball line of Australian mail packets, where her quick passages are celebrated. Her length over all is 250 ft., breadth 41 ft. 6 in., and register 1919 tons.

The Iron Shipbuilding Trade is at present extremely dull. It has indeed, like many other trades, been overdone, and cannot be expected to recover much until the advent of another year, and the general distrust, caused by the great panic of 1866, is passed away. Although the money panic has contributed very much to bring about this result, yet the prevalence of strikes among the workmen has also had the same tendency, and may fairly be charged with their full share of the blame. All the engine-works and manufactories on the Tyne are held to be slack, but those which supply collieries with pumps, engines, &c., are, some of them, enabled to keep on full time. Of course, the marine-engine business is very flat, and so are the boiler-builders and various other branches. At Messrs. Joicey's works, in Newcastle, a very large pumping-engine is in course of construction for a colliery near Sheffield. The pumps, engines, &c., are equal in size to the famous pumping-engine at Hartley Colliery.

One of the most lamentable features in the conduct of the ironmen, and their leaders is the very unfair and impolitic reception they have given to the scheme of Messrs. Fox, Head, and Co. That scheme, as is well known, embraces some of the features of co-operation. The men work under an agreement which affords them the same rate of pay as at other works, and also gives them a share in the profits of the works when the said profits exceed a certain rate per

cent. Yet the men and their leaders have resolutely opposed this very sensible proposition, which is, although very likely sufficiently imperfect, at any rate, a step in the right direction.

On Monday, at the Middlesbro' Police Court, Matthew Lalley, a puddler on strike, was charged with intimidating and using threatening language towards another puddler, named Jos. Biewitt, employed at Fox, Head, and Co.'s works. After a long and patient hearing of the case by the Bench, Lalley was committed to prison for one calendar month, with hard labour.

The alkali and chemical trades of the Tyne are extremely brisk, and numerous extensions are in progress, new works are also projected, some have commenced to excavate and build. This is extremely fortunate, as these works will absorb some of the men thrown out by the dearth of employment at the iron and engine works, and the result, we believe, will show that a less number of men will be out of work than is generally looked for.

The serious falling off in the trade of Sunderland during the past year has caused some apprehension at that hitherto prosperous and rising port. It is always very unpleasant to witness a regular reduction of revenue, with at the same time increasing burdens and obligations. The result, however, will be beneficial, if the agitation on this subject leads to measures, which it is certain to do, calculated to remove the obstruction to progress, and thus turn the tide of affairs. The rapid progress of the Tyne improvements has drawn numbers of large ships there, and for the time thrown Sunderland into the shade. The latter port possesses magnificent docks, which are comparatively useless at present owing to the want of a good entrance from the sea, and also owing to the want of direct inland railway communication. Sunderland at present is little more than a coal port, the Tyne having almost exclusive possession of the export and import trades. When the immense chemical and manufacturing trade of the Tyne is taken into account, the difference between the position of the Tyne and the Wear becomes more apparent. There is no doubt that, from the position of Sunderland, efficient railway communication would soon effect a change for the better, and the port would again begin to progress as formerly. But a proper sea entrance, with good depth of water, ought also to be provided without delay, and in the present prosperous state of the chemical trade, it is surprising that no works of this kind are springing up on the Wear.

A general monthly meeting of the members of the North of England Institute of Mining Engineers will be held to-day, at Neville Hall, Newcastle, when the following important business is to be brought forward:—

- 1.—A paper will be read by Mr. W. Lishman "On a System of Working Coal on the Long Wall Plan."
- 2.—Mr. A. L. Stephenson's paper "On Certain Experiments with M. Guibal's Fan Ventilator."
- 3.—Mr. Daglish's paper "On Broadbent's Safety Cage."
- 4.—Mr. Cochran's paper "On Harrison's Cast-Iron Boiler" will be open for discussion.

A full report of the proceedings will be given in next week's Journal.

PRESIDENT TO MR. T. J. BEWICK, M.I.C.E., &c.—A very handsome and substantial presentation has been made to Mr. T. J. Bewick, a gentleman highly respected and well-known in the extensive mining districts of Allendale and Weardale, as well as in other parts of the North of England. The occasion was the retirement of Mr. Bewick from the office of engineer to the mines of Mr. W. B. Beaumont, M.P., after a faithful service of 20 years. The presentation consisted of a very handsome silver tea and coffee service, with a pair of 400l., from Mr. Beaumont, and a magnificent epergne, claret jug, and a pair of fruit dishes, all in silver, from the officials, workmen, &c., connected with the mines, and also subscribed for by various of Mr. Bewick's friends, who were equally anxious to show their appreciation of his many sterling qualities. The presentation took place in the Miners' Room, in Allendale, Mr. T. Sowth, M.A., F.R.S., being unanimously voted to the chair, and there was also present a large attendance of those connected with the mines, many of the ladies of the district being also present, and evincing the greatest interest in the proceedings. The Chairman, at considerable length, referred to the high character and professional abilities of Mr. Bewick, concluding by presenting him with the gifts, to which 1000 persons had subscribed.

## REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

DEC. 6.—There is no change to report in the state of the Iron Trade. The demand continues on a small scale. The lowness of stocks compels orders to be sent from week to week, but the number in advance is very small, and little more than half-time prevails throughout South Staffordshire, whilst in the northern district the men are far from being fully employed. The Hardware Trades are also, as a rule, dull, and no general improvement is likely for a month or two. The demand for punched steel moulds for gun-barrels is rapidly increasing, and the process is being freely adopted in France, Belgium, and other parts of the Continent.

The one great topic in Staffordshire, and especially in South Staffordshire, for the last week, has been the Queen's visit to unveil the statue of the late Prince Consort. The event has been described at length in the papers, and nothing could exaggerate the earnest efforts, alike of the authorities and of private individuals, to give Her Majesty a loyal and hearty welcome. The idea of constructing the first arch under which the Queen was to pass of coal, ornamented by miners' tools, was a most happy one. It emanated from Mr. Rupert Kettle, County Court Judge of Worcestershire, and an amateur artist of considerable skill, and Mr. Hartley, Chairman for the year of the South Staffordshire Ironmasters' Association, and also a member of the Commission on the Coal Mines of the country. Mr. J. P. Baker, Her Majesty's Inspector of Mines, superintended the erection; and the huge blocks of which it and a pyramid adjoining were composed were supplied by Mr. F. Smith, agent to the Earl of Dudley, from the thick coal pits of his lordship; they were afterwards given to the South Staffordshire Hospital. The colliers in Lord Dudley's mines vied with each other in producing the largest blocks, and some were upwards of 3 tons in weight. An arch, ornamented with hardwares, also very appropriately typified another branch of the industry of the place.

One further remark on this visit is suitable to the columns of the *Mining Journal*. The London narrators of the event appear to have framed, if not written, the introductions to the accounts they furnish in town, for they generally speak as if the statue stood in the centre of a region covered with cinder mounds and spoil banks, and under an atmosphere perpetually darkened with volumes of smoke. Punch says of the monument—

"'Tis well his statue should stand high, in this Black Country's core,  
Where the cinder mounds and spoil banks, and the ash and soot;  
Where the emerald earth knows scarcely any change no more;  
Where the only seed is gold, the only harvest coal and ore."

Now, however well this might have been, it is not so. Wolverhampton is on the outer edge of the Black Country, and the mining district. It stands on the summit of a saddle-back hill, right over which the Queen passed, and which divides the waters of the Severn from those of the Trent. North and east the mining and iron-making district extends; south and west it looks, as a local paper states, "on green fields and waving woods, and the soft blue of distant hills; whilst its outskirts on these sides are adorned with gardens and shrubberies, and all the beauties which nature yields." It is in this direction the statue looks, and the very point where it stands has certainly not more smoke than at Westminster Abbey, whilst 200 yards away vegetation is as fresh as round the Serpentine. The fact is that along the eminence on which the town stands runs a great fault, which to the south-west has depressed the coal-bearing strata below the miner's present reach, or, on the other side, raised them to a position rendering them extraordinarily profitable. No doubt these measures stretch across to the Wrekin, in Shropshire, which is visible from near the statue, but as yet they have not been reached by the mining adventurer.

Several references have been lately made to a revised code of Special Colliery Rules for South Staffordshire and East Worcestershire, which Mr. Baker, the Inspector for the district, has prepared, and which has been submitted to the consideration of the trade. A desire was expressed at a meeting of the coal trade and the mine agents that action as to the proposed alterations should be deferred for six months, to await the report of Mr. Ayrton's Committee; but the Secretary of State presses for one of the proposed alterations being considered at once. The general tendency of the proposed amendments is to render personal responsibility more definite, and to fix a greater amount of responsibility upon the higher officers of a mine, from which they can only be relieved by distinctly deputing it to others. The particular rule, the alteration in which is pressed, is in the existing rules the 20th. The amended rule proposed makes the obligation for the charter-master or his deputy to examine the workings every morning distinctly imperative in all cases, and it imposes on the same parties, in clearer terms than under the old rules, the duty of providing sufficient timber for the roofs, and causing all the workings to be properly supported with timber, or otherwise made secure, and his obligations to see that all under him take precautions against danger are more clearly defined and extended; and it is provided that where no chartermaster is appointed, these rules shall be binding on the manager or his deputy. Mr. Baker has assented



to the re-introducing of words releasing the charter-master where another person is appointed for the purpose of seeing to the timbering, &c.; and it is understood that no further objection will be taken to the alterations in the rule.

Several fatal colliery accidents have occurred lately. George Downing, the chief charter-master at the Silverdale Colliery, in North Staffordshire, was killed a few days ago by a quantity of "boss" falling upon him as he was assisting to put down a turntable in the colliery. A youth, named John Dingley, was killed at the North Staffordshire Colliery as he was descending the shaft by falling to the bottom, as he was endeavouring to get out of the cage too hurriedly into an inset. In both cases verdicts of "Accidental Death" were returned by the Coroner's jury.

A boy was killed on Saturday morning by a fall of earth at a colliery at Old Hill, belonging to the British Iron Company. It appeared in course of the enquiry that some men had gone to work before the pit was examined, and the Coroner said he should inform the Mine Inspector of the fact. A miner, 55 years old, lost his life at the Tivdale Hall Colliery, near Dudley, by a fall of a ton of coal, owing to his neglect to secure it. Mr. Baker (the Government Inspector), who was at the inquest, urged that a system of propping the coal should be now strictly enforced.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

DEC. 6.—There is little alteration to note in the state of affairs in Derbyshire, where a majority of the colliers appear determined to sever the good relationship which has hitherto existed between them and their employers. The Union hands, who have left their comfortable houses in Staveley, are now being located in huts and tents in the neighbourhood of Whittington, so that the prospects of the families during the inclement season are far from cheering. Amongst the singular features connected with the dispute is the fact that a considerable number of the men opposed to the Union have formed themselves into a league in opposition to it, and, from a small beginning, a respectable body has been formed. The coalmasters appear determined not to give way in the least, and, although aware of the sacrifices they will have to make, seem prepared for the worst, as they will not allow of dictation on the part of those who are in no way connected with them. The trade of the district continues active, there being a brisk demand for coal for the London market, whilst the market for iron continues in about the same state as it has been for a considerable time past, contrasting favourably with almost any other part of the country. The experiments which took place on Monday, on board the *Thunderer*, in which the Pallister chilled shot was brought into contact with the heavy armour-plates manufactured in Sheffield, have proved so far satisfactory that the Admiralty have ordered the two great firms of John Brown and Co. and Cammell and Co., both limited companies, to manufacture some of the strongest plates possible, to show whether they are capable of resisting heavy projectiles. It is expected that plates far superior to any yet produced will be brought out, and it is questionable whether ordinary ordnance of the heaviest character will be able to "leave their mark" on them. Messrs. Cammell and Co. have received instructions from the War Office to manufacture 20 iron shields for the sea-face of the extensive fortifications of Malta and Gibraltar.

The prospects of the makers of heavy plates are now much brighter than they have been for some time, as the heads of the Admiralty and the War Office appear determined to put our foreign as well as our home coasts in an efficient state, so far as defence is concerned. The general trade of Sheffield continues dull, and the briskness peculiar to the month of December will show a marked falling off, so that the "bulling" before Christmas will be a considerable failure. There is no alteration in the state of the iron trade in South Yorkshire. At the works at Milton, the puddlers, after being out for about a fortnight, have resumed work, having given way to their employers, and agreed to dispense with the services of a boy, who has hitherto been paid by the firm. There are few large orders in hand at any of the firms, the only business doing being in hoops, bars, and sheets, for which the demand is very limited. The Coal Trade continues active, and a heavy tonnage is being forwarded by the Great Northern to London and the South. On Monday it was made known that a general advance at all the collieries had been agreed upon. The rise in price varies from 6d. to 10d. per ton, the latter price being fixed for home consumption.

On Saturday the Derbyshire coalowners were informed that from that date the rates for coal in owners' wagons, on the London and North-Western, North London, Midland, Great Western, Great Northern, and Great Eastern Railways will be advanced 6d. per ton.

On Monday evening a handsome testimonial, in the shape of a plated tea and coffee service, and solid silver tankard, bearing an appropriate inscription, was presented to Mr. Steers, for 22 years manager of the Stratford Collieries, and now about to take the management of a colliery at Wakefield. The presentation was made by Dr. Carr, one of the proprietors of the collieries, who enquired Mr. Steers, not only as an old and faithful servant, but as a gentleman possessing much practical knowledge in connection with mines and mining. The workmen presented Mr. Steers with a beautiful gold watch and massive Albert guard in token of esteem.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

DEC. 6.—There has been no change of any importance in the South Wales Iron Trade since last report. Two or three small orders for immediate delivery have been placed by home consumers, who are represented to have scarcely any stocks on hand, whilst their requirements are heavy. The tone of the enquiries shows this to be the case, and, therefore, it is hoped by many parties that, as confidence is being gradually restored, makers will not have to wait till next spring, as predicted by some, before a reaction for the better takes place in the trade generally. At the Taff Vale Ironworks, near Pontypridd, there has been a considerable reduction in the number of hands employed, and a similar step has been taken at several of the other works. At Merthyr notices of a reduction in the rate of wages were posted up at all the works on Saturday last, Dec. 1, but the ironmasters of Monmouthshire have not yet taken that course. This may seem strange, but on previous occasions, when notices have been given, the Monmouthshire and Glamorganshire masters have not acted in unity, one division of the district being generally one month in advance of the other. When the notice was given at all the works last July for a reduction, it was owing to the refusal of some of the Glamorganshire ironmasters to carry the notice out that it was withdrawn. This circumstance proves one great fact—that there does not exist among the masters a combination as to how the men of the district shall be paid, and will show the workmen that those employers who have taken the step have been compelled to do so from dire necessity, and to enable them to keep their works employed. The new proprietors of the Aberaman Ironworks and Estate (Powell's Duffryn Steam Coal Company) will not enter into possession of the whole of the concern before the beginning of the year. The works, although small, are compact, and capable of much extension. The demand for rails is not quite so good, and the enquiry for bars has slightly decreased. For plates there has been a slight movement for the better, but not of any moment; and two or three of the works are fairly employed upon common descriptions of manufactured iron.

There has been an average quantity of railway iron sent down to the ports of Cardiff and Newport for shipment to the foreign markets since last report; but, in consequence of the long-continued contrary winds, several vessels are lying windbound, and export operations consequently suffer. Most of the iron exported has been for the Northern and Southern States of America, from whence orders continue to come in steadily. It is expected, however, that after Christmas there will be a falling off in the demand from that quarter; but no doubt the spring delivery contracts from the Russian and Canadian market, will fill up the gap, and it is hoped ere long some of the expected orders on Indian account will make their appearance. The Continental demand is of an average character, and in transactions with the other foreign markets there is no change to note. In pig-iron purchases are made sparingly, except for the Blaenavon and other cold-blast makes of repute, which meet with a fair enquiry. Tin-plate makers complain of the falling off in orders, and some of the most experienced in the trade consider that the erection of so many new works in the district will have the effect of again producing the evils consequent upon over-production. Welsh steam coal continues to be largely purchased for exportation and on inland account, whilst business in the house coal trade is seasonably active.

At the Llantrissant Petty Sessions, Messrs. Brain, colliery proprietors, were summoned by David Jenkins, Llantrissant, David Richards, and John Richards for non-payment of wages. It appeared that the complainants worked in a coal mine at Longreaff, and had entered into a contract with the Messrs. Brain to drive a heading at 11s. per yard. After work-

ing some time the men made a fresh contract with William Richards, the overman, to work at 4s. 6d. the turn, the company to find powder. When the pay came the complainants were only paid at the rate of 11s. per yard, which amounted to 2s. 4d. per turn. When spoken to, Messrs. Brain said they had given no orders for the complainants to work by the day, but promised if they could not earn 4s. 6d. the turn they should get some allowance. The men said they knew nothing of that agreement, as the overman had agreed with them to work by the day, and had supplied them with powder. The magistrates held that the defendants were responsible for their overman's contract, and made an order for the wages to be paid, with costs.

A dreadful explosion of gas took place at the Caraway Colliery, Llanelly, on Friday. It appears that about 60 men were engaged in the workings, when suddenly the place was enveloped in flames, which swept before it doors, frames, horses, and everything, it came in contact with. We are sorry to add that some of the men were badly burnt. The cause is not yet known, but a searching investigation will be made, and if the result of carelessness or culpable wilfulness, it is hoped that the guilty parties will be brought to justice.

In re Moore and Thomas, colliery proprietors, Cadoxton-juxta-Neath, who came up for their orders of discharge on Tuesday, at the Bristol Bankruptcy Court, Mr. A. Brittan stated, on behalf of the assignees, that they offered no opposition. Mr. Edlin, who appeared for the bankrupts, said that on the part of Moore he had handed to the assignees certain shares which, prior to the bankruptcy, he had given to his sister, who had made large advances. The bankrupt voluntarily gave those shares to his sister, and they had been as voluntarily surrendered by the latter to the estate. Mr. A. Brittan said the shares had been frankly and honourably given up. His Honour granted the bankrupts their order of discharge, and hoped they would be more prosperous in future.

The following case, *Filton v. Marshall*, in connection with the Glamorganshire Iron and Coal Company, came on for hearing before the Court of Common Pleas, on Saturday. The action was brought to recover 5000l., which plaintiff alleged defendant agreed to pay him upon his bringing out a joint-stock company, for the purpose of buying a coal mine in Glamorganshire, of which the defendant was possessed. The plaintiff formerly carried on business as an advertisement agent at Charing Cross, London, and had been engaged as an agent in election contests, &c. In 1864, he was introduced to the defendant, who had been possessed of the Van Colliery, Glamorganshire, for a term of nearly 80 years, for the purpose of assisting him in disposing of it most profitably. In October of that year, the defendant by a letter agreed to pay the plaintiff 5000l., if he brought out a joint-stock company for taking the colliery at the sum of 30,000l. The plaintiff accordingly had interviews with Messrs. Crossley Brothers, the stock and share brokers, who introduced him to Messrs. Moore and Delatorre, of King's-street, Cheapside, with the view of forwarding the defendant's object. It appeared, however, that Messrs. Moore and Delatorre, after being introduced personally to the defendant, brought out a company called the Glamorganshire Iron and Coal Company, for the purpose of buying and working the colliery, and this they did without communicating with the plaintiff. Under that scheme the defendant was to have 48,576l. for his colliery, to be paid in this way—17,000l. in cash, 24,500l. in paid-up shares, and 7000l. in debentures, at 5 per cent. interest. This scheme, however, was never perfected. Subsequently the plaintiff received 250l. from Messrs. Moore and Delatorre, but he has not hitherto received anything from the defendant. The jury returned a verdict for the defendant.

The arrivals at Swansea include—the Paison, from Requejada, with 150 tons of iron ore; Mr. Stadler, the Flanor, from St. Paulo, with 200 tons of zinc ore; Mr. Rylands, the Etiole de Mer, from Cadiz, with 100 tons of zinc ore to order; and the Antonia, from Redan, with 100 tons of iron ore, for J. Walters.

#### FOREST OF DEAN.

As stated last week, the Coal Trade is brisk, and there is every prospect of a good winter trade; 12,000 tons per month are raised by the Crump Meadow Company, chiefly disposed of in the towns of Hereford, Gloucester, Stroud, Cheltenham, and Bridgewater. The second quality realises 8s. 6d. per ton at the pits. This is a really a useful coal for home purposes. The better qualities, the rocky, obtain a somewhat higher price. Some good coal is raised at Mr. Crawshaw's Lightmoor Collieries, at which works some 500 hands are employed. The veins of coal worked here give a good average yield. They are the Rocky, the Lowery, and the Coleford High Delf.

Farmers' Folly and Windmill Pit Colliery, offered a fortnight since for sale in London, is again in the market by private treaty. These pits are situated near Coleford. It is estimated that there remains in connection with these gales 142 acres of unworked coal, of the Coleford High Delf vein. At the present time it is profitably worked, but more capital is required to properly develop its yield. Should the Ross and Monmouth Railway Company obtain their Act in the next Parliament the line will pass near these works. A great drawback now exists in their having no railway communication.

The intimation with regard to the men employed at the Soudley Furnaces being under notice was confirmed on Saturday by their discharge. While bearing in mind the distressing effect the discharge of some 50 men must occasion, more especially at this season of the year, intensified just now by whole days of pouring rain, giving all things outward the most gloomy aspect, it is pleasing that this stoppage is not attributable to a scarcity of fuel, but to an abundance of orders now on hand, so much so, that had the furnaces not been blown-out they would have lasted six months. The cause of the suspension is purely owing to great defects in the furnaces, which, although originally well built, have become rendered unfit for use. The average make per month has been about 580 tons, of numbers ranging from 3 to 6. The latest price for the inferior quality, at the works, was 3s. 10s. to 3s. 15s., whilst the better class realised 4s. 5s. The greater portion made here has been Nos. 3 and 4, disposed of to home buyers in South Wales and Staffordshire. Good quality iron has been sent to the Forest district. Some very good iron for wire and merchant consumption has been made at Soudley. It is thought that it will be three months before either furnace can be repaired. At Mr. Henry Crawshaw's Cinderford Furnaces there is a large quantity of pig-iron made. There are four furnaces, three only of which are in work. At No. 4 some 800 tons of best quality are made per month, the portion of ore being obtained from the Shakenantle and Buckshead Mine Pits, belonging to Mr. Crawshaw. This is a very rich ore, so much so that an inferior kind, from the Shakenantle, in the proportion of one-third, is used with it. Great expense is incurred in the transit of this mineral, it having first to be hauled in wagons several miles, and thence per rail from Lydney to Bulla Pill, and up the Cinderford branch. The other two furnaces forge about 600 tons each per month. This iron is chiefly sent to Wales, Messrs. Banks and Co., of Pontymler, near Risca, being large consumers. A good portion is also sent to Llanelly, and a medium of No. 5 to the Lydney Tin Works. The trade is very brisk, and heavy orders continue to come in. The furnacemen at these works find plenty of employment, and are generally a contented class of men, favourably contrasting with those districts in which Union and other clubs exist.

**TITANIC IRON ORE.**—Reference was made in the *Mining Journal* of Nov. 10 to the discovery of a cheap process for smelting titanic iron ore, and, in reply to enquiries, it may be stated that application for a patent was made, and provisional protection granted, for the invention on Nov. 10 to Messrs. George Crawshaw and John Thomas, both of Gateshead-on-Tyne. Mr. John Thomas has bestowed a large amount of care with a view to perfecting the invention, and he has now so far succeeded that it has been decided forthwith to erect large smelting-works at the Bay of St. Paul's, Lower Canada. The deposit of titaniferous iron ore which it is proposed to work is situated within half a mile of the River Goffe, a tributary stream of the St. Lawrence, and is considered by Sir William Logan, whose position as chief of the Government Geological Survey of the Province gives weight to his opinion, to be the largest yet known. The merit claimed for the process is, that not only does it yield an iron of an excellent steel texture, but that even the scoria is so rich in titanium as to be of considerable commercial value. The owner of the deposit proposes to commence operations by undertaking the re-manufacture of a large quantity of old rails, which he intends to top with a surface of the titaniferous metal. The details of the process will be given in a few weeks.

**THE EXPORT COAL TRADE.**—The exports of coal from the United Kingdom continue to steadily increase. Thus, they amounted in October to 880,602 tons, as compared with 814,794 tons in October, 1865, and 752,078 tons in October, 1864. In these totals France figured for 140,940 tons, 131,865 tons, and 100,723 tons respectively. In the ten months ending Oct. 31 this year, the aggregate exports of coal from the United Kingdom were 8,467,101 tons, as compared with 7,753,007 tons in 1865, and 7,367,993 tons in 1864 (corresponding periods). France is still our largest customer for coal, having taken 1,522,736 tons to October 31 this year, as compared with 1,309,048 tons to the corresponding date of 1865, and 1,165,915 tons to the corresponding date of 1864. The exports of British coal have increased more or less considerably this year to Russia, Sweden, Denmark, the Hanse Towns, Holland, France, Spain, Italy, Brazil, and British India; they have, however, decreased to the United States of America. The value of the coal exported in October was 458,714l., as compared with 399,647l. in October, 1865, and 358,416l. in October, 1864. In the ten months ending Oct. 31 this year, we exported coal to the aggregate value of 4,317,354l., as compared with 3,705,871l. in 1865, and 3,454,628l. in 1864 (corresponding periods). In these last totals France figures for 711,923l., 588,862l., and 496,446l. respectively.

**THE RECENT DISCOVERY OF COAL IN SHROPSHIRE.**—The works in connection with the New Stafford coal pits, near Shifnal, the successful sinking of which was a few weeks ago related by a banquet, presided over by Lord Granville, are being rapidly proceeded with. It is computed that the mine contains 19,000,000 tons of coal, the estimated yield being at the rate of 27,000 tons per acre, it has hitherto been an article of belief among geologists that the line

shown upon the official geological maps as bounding the Shropshire coal field on the east, and representing what is known as the "Great Shropshire Fault," marks the extreme limit of the bed on that side, and that beyond it, as far as the South Staffordshire field, there is an entire absence of coal. The New Stafford Pits are sunk at a point some distance to the east of the "fault," and the result of the experiment having demonstrated the fallacy of the geological dogma, the question is now being raised as to whether coal may not be found in other portions of the proscribed district. A pair of pits have already been sunk in the reputed "dead ground," a little to the south of the New Stafford Mine, and if the result prove equally successful there is a prospect of a considerable change taking place in the aspect of East Shropshire, at present a purely agricultural district.—*Times*.

#### MINING, METALS, AND MINERALS—PATENT MATTERS.

By M. HENRY, Memb. Soc. Arts, Assoc. Soc. Eng.

It is singular that, numerous as are the patents relating to the metallurgical arts, comparatively little attention appears to have been paid to a certain class of metals, which, though some of their useful qualities are known, do not appear to have been utilised and applied in the useful arts to the extent of which they might, perhaps, be found capable, if their natures and properties were explored to a fuller extent. Indeed, it seems singular, taking even only one among the numerous applications of metals—their utilisation as conductors for electric and galvanic action—that, while so much consideration has been applied to the insulating materials, the manufacturing arrangements and the mechanical manipulating appliances connected with electro-telegraphy, no large amount of attention appears to have been directed—at least, judging from the fair test of the patent list—to the possibilities of rendering metallic alloys and compounds capable of conduction. Probably in the broad field of the industrial arts there is yet great scope for researches into the capabilities of metals hitherto not largely applied. It may be observed that an application for patent has been recently made by CROCKFORD, of Holywell, for the manufacture of spelter, and the utilisation of its products; also for obtaining products from materials produced in coating iron with zinc.—NEWTON applied for a patent (as a communication from Tarr, of Chicago), for making cast-steel railway-wheels and other metal castings.—TOMLIN and HOOK, for the manufacture of gas, and the preparation of fuel.—PETITJEAN, for a new method of combustion; and BATEMAN, for pumps and fire-engines.

Among sealed patents are the following:—GEDGE, metal boxes, tins, or cases.—NEWTON, boring, drilling, and grooving metals; also, NEWTON, forming collars on metal axes, &c.

Among Patents which have been maintained by the recent payment of the additional duties, may be cited—HARRISON, for cutting coals, minerals, and stones.—J. WRIGHT, for furnaces, fire-grates, and fire-bars; and two of BETTS, for capsules.

Any opposition intended to the following six Notices to Proceed must be entered on or before the 18th inst.:—STARK and WOODMAN, firing retort covers.—NEWTON, consuming furnace-smoke.—MITCHELL, shaping and forging metals.—BENTALL, sharpening saws.—FISHER, moulds for casting metals.—BONNEVILLE (communication from Hognou), pumping or ventilating apparatus.

Any opposition intended to the following five Notices to Proceed must be entered on or before the 24th inst.:—CLARK, puddling-furnaces.—M'BEATH, drilling shale, coal, and other bitumens.—HASELTINE, producing designs and devices on marble cases and other calcareous stones.—HASELTINE, drilling rocks.—WOODBURY, printing from photo metal intaglio.

May it be submitted that the salutary rule once adopted for the exclusion of special designations from titles to applications for patents might be maintained with advantage. Reference is made to this subject because a recent patent with such designation has been sealed, and, in the present somewhat uncertain condition of the copyright laws and equity rights in trade names and titles, the introduction of such distinctive names into patents might lead to complication in matters of this description.—CUNNINGHAM has specified an apparatus suitable for drilling and ornamenting metal, in which a shaft is driven by a pulley, having on its axis a drilling or cutting tool. On the shaft is a lever-handle, for raising and depressing it. The shaft is guided by an adjustable casting with a projection on which the lever is fixed. The apparatus may be combined with the bed-plate of a lathe by a bar or slide, so that the drill may be varied in position on a table capable of rotary and angular adjustment; the driving-pulley may be fixed on a shaft between the lathe-head and back-centre.—POOLE and SPARROW propose to collect and utilise the waste gases of blast-furnaces. According to one modification, they use a curved chamber surrounding a portion of the tunnel-head, with doors at each end, and rectangular vertical tubes at bottom, one between each feed-opening, and these extend downwards below the charge, and open out through the side of the furnace; they have lateral funnel-shaped mouths at bottom. This invention may, perhaps, describe more fully in a future article.—FROST has specified an apparatus for breaking and crushing stones and ores, in which he employs the following arrangement for giving to-and-fro motion to the lever, which carries the pressing-block. He uses a cam or crank, which is fixed to a fly-wheel shaft, rotated by steam or other power, and is capable of imparting oscillating motion to a vertical lever, connected with the lower end of another lever, the upper end of which the press-block is attached. A steel or chilled cast-iron plate is dovetailed into the framing of the machine facing the press-block. The link may be made weaker than other parts of the machine, so that they may give way in case of undue strain, and thereby prevent accidents. The press-block and plate have V-shaped ribs, placed at an angle, with the wider end upwards.—BOUMER has specified a patent, in which he claims modes of rolling, laminating, and grinding, or otherwise reducing, furnace slag, scoria, and clinder, his improvements being also partly applicable to certain processes in the manufacture of iron and steel. He describes the use of rolls, revolving at an equal or differential velocity, to receive slag as it runs from the furnace, or one roll may be used, acting against a plane fixed surface; water may be allowed to drop on the material on its leaving the rolls, to facilitate its further reduction. The slag may be re-melted previously to passing it through the rolls. The process may be applied to reducing cements, in which case water is not used. Iron may be mixed with carbonaceous matter, and made into lumps or blocks, after being treated by the process.

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The Transfer-books will be closed on and after Saturday, the 8th inst., until the dividend and bonus become payable.

By order of the Court of Directors,  
A. ROBERTSON, Agent and Manager.  
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3.—As the fire is enclosed in an air-tight furnace, there is no danger of ignition or explosion, in proof of which insurance companies do not charge increased premiums where these engines are used.

4.—Great economy in the working expenses. No engineer is required. A one-horse power nominal, worked in London, with coals at 30s. per ton, costs, including oil, &c., 5s. per week of 60 working hours, or 1d. per horse power per hour.

5.—No preparation is necessary for its erection, as it stands on its own frame. A one-horse power requires space of about 5 feet square; a common stove pipe, leading into a chimney, is all the draught arrangement required. It is self-contained, simple in construction, and not liable to get out of repair.

Experience shows that the demand for small-power engines is enormous, both at home and in the colonies; for instance, for printing, turning, sawing, pumping, hoisting, ventilators, sewing machinery, &c.

These engines can be used where it would be impossible, dangerous, or unpleasant to have a steam-engine.

The company have made an arrangement to acquire the sole and exclusive right of making, selling, and using hot-air engines constructed under various patents, and all future improvements the vendors may make.

Applications for shares, prospectuses, and any further information, to be made to the Secretary, at the offices, where an order may be obtained to see the machine in full work.

TESTIMONIALS.  
12, Red Lion-court, Fleet-street, London, Aug. 16, 1866.—GENTLEMEN: In reply to your enquiries regarding the 1-horse power hot-air engine, I beg to state that I have had it in constant work for the last nine months driving two lathes, one planing machine, a small circular saw, &c. The cost of working, including oil, &c., amounts to less than 5s. per week, requiring little or no attention, and is perfectly free from all danger.—In fact, a boy of 14 years of age, after a few days' instruction, is quite competent to take entire charge of it. It affords me great pleasure to state that I am perfectly satisfied with it in every respect.

THOMAS JOHN LAWRENCE.  
7, Red Cross-square, Jewin-street, London, August 17, 1866.—DEAR SIR: In reply to your's, respecting the hot-air engine, I can say that it has worked to my entire satisfaction, driving two double-crown printing machines at a cost of 5s. per week, including the cost of oil. You may with confidence recommend it to anyone, as nothing can equal it for safety and economy; and they only require to be known to be appreciated. A boy fourteen years old attends to mine. Any further information that you may require I shall be happy to give you.

W. G. BUNTING  
N.B.—There are one-horse power engines.—J. D. C., Sec.

BOWLING IRON COMPANY,  
BRADFORD, YORKSHIRE.  
BEST CRUCIBLE CAST-STEEL TYRES, AXLES, CRANK AXLES, BOILER PLATES,

Also COG WHEELS, and other CASTINGS.  
This company is prepared to furnish the above-mentioned articles in CAST STEEL of a very superior quality, made principally from their own well-known "BOWLING IRON."

Also BOWLING WROUGHT-IRON SOLID WELDESS TYRES, of any size and to any section.

Memorial to the late Nicholas Wood, Esq.  
MEMORIAL TO THE LATE NICHOLAS WOOD, Esq.—At a PUBLIC MEETING of the Subscribers to this Fund, held in Newcastle on the 10th November, 1866, it was unanimously resolved that the proposed MEMORIAL should be in the FORM of a HALL to be ERECTED in NEWCASTLE, for the use of the Northern Institute of Mining Engineers, to be available for all classes of the Mining Community, under the arrangement of the Council of the Institute. It was also resolved that there should be placed in this hall Busts of Mr. Wood and of others who had been distinguished in this district as Mining or Civil Engineers, &c. It is estimated that the sum required for the purpose will be from £5000 to £6000.

SUBSCRIPTIONS.  
Amount previously advertised £445 14 0

|   |           |
|---|-----------|
| The Hutton Coal Company, Hutton   | 250 0 0   |
| T. E. Forster, Esq., President of the North of England Institute of Mining Engineers, Newcastle | 100 0 0   |
| Hugh Taylor, sen., Esq., Chairman of the Coal Trade, Earsdon                                    | 100 0 0   |
| Hugh Taylor, jun., Esq., Chelchase Castle   | 100 0 0   |
| Edward Potter, Esq., Crumlington  | 100 0 0   |
| John Taylor, Esq., Earsdon  | 100 0 0   |
| Messrs. James Joicey and Co., Newcastle   | 100 0 0   |
| Messrs. R. Stephenson and Co., Newcastle  | 25 0 0    |
| Chas. Wm. Anderson, Esq., Cleland Park  | 21 0 0    |
| R. S. Johnson, Esq., Haswell  | 21 0 0    |
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| The Tyne Iron Company, Newcastle  | 5 0 0     |
| Christian Allhusen, Esq., Newcastle   | 5 0 0     |
| J. J. Atkinson, Esq., Chilton Moor  | 5 0 0     |
| Mr. George Clark, Sunderland  | 5 0 0     |
| Mr. George Clarke, jun., Sunderland   | 5 0 0     |
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| Crawford Marley, Esq., Darlington   | 5 0 0     |
| The Rev. the Vicar of Newcastle   | 5 0 0     |
| Robert Sharp, Esq. (second subscription), Sunderland  | 5 0 0     |
| Messrs. R. Richardson and Son, Hull   | 3 0 0     |
| Henry Watson, Esq., Newcastle   | 3 0 0     |
| Messrs. R. Marshall and Co., Newcastle  | 3 0 0     |
| Mr. Thomas Hepplewhite, Lyons   | 3 0 0     |
| Mr. Robert Elliott, Pender (second subscription)  | 2 18 0    |
| William Hunter, Esq., Newcastle   | 2 2 0     |
| Mr. John Swallow, West Harton   | 2 2 0     |
| Mr. Michael Hopner, Hetton Colliery   | 2 2 0     |
| Messrs. Reed and Sons, Newcastle  | 2 2 0     |
| Wm. Green, jun., Esq., Newcastle  | 2 2 0     |
| Robert Simpson, Esq., Blaydon   | 2 2 0     |
| J. B. Simpson, Esq., Blaydon  | 2 2 0     |
| Mr. J. Fawcett, Pittlington   | 1 10 0    |
| Frank N. Wardell, Pishetta Colliery, Northumberland   | 1 10 0    |
| Mr. Joseph Rosecamp, Elmore   | 1 10 0    |
| Mr. Daniel Bland, Murton Moor Cottage   | 1 10 0    |
| Mr. Stephen Gibbon, Murton Moor   | 1 10 0    |
| Mr. William Minto, Hetton-le-Hole   | 1 10 0    |
| Mr. George Stott, Ferry Hill  | 1 10 0    |
| Mr. Robert Clay, Sunderland   | 1 10 0    |
| Mr. Michael Johnson, Downs  | 1 10 0    |
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| Mr. George Dixon, Bensham Cottage   | 1 10 0    |
| Mr. John Corbitt, Bensham   | 1 10 0    |
| Mr. William Hepplewhite, Lyons  | 1 10 0    |
| Mr. James Davison, Dalketh  | 1 10 0    |
| Mr. J. J. Roddam, Stanhope  | 1 10 0    |
| Wm. Alexander, Esq., Glasgow  | 1 10 0    |
| Mr. Wm. Anderson, Chilton Moor  | 1 0 0     |
| George H. Gooch, Esq., Lintz Colliery   | 1 0 0     |
| Mr. John Wakefield, Lyons   | 1 0 0     |
| Mr. William Rennie, Moorsley  | 0 15 0    |
| Mr. John Hatley, Houghton   | 0 10 0    |
| Mr. Walker Tate, Elmore   | 0 10 0    |
| Mr. Joseph Jackson, Carr House  | 0 10 0    |
| Mr. Joshua Lancaster, Wigan   | 0 10 0    |
| Mr. Henry Jackson, Tyldesley, near Manchester   | 0 10 0    |
| Mr. Ralph Clegghorn, Lyons  | 0 10 0    |
| Mr. John Cowell, Moorsley   | 0 10 0    |
| Mr. Daniel Fawcett, Pittlington   | 0 10 0    |
| Mr. Thomas Elliott, Pittlington   | 0 10 0    |
| Mr. George Mitcheson, Hetton  | 0 10 0    |
| John Wakefield, Elmore  | 0 10 0    |
| Sundry Small Sums   | 1 11 0    |
| Total   | £1612 6 6 |

Subscriptions will be received by the following Members of the Committee:—  
MR. T. E. FORSTER. MR. EDWARD POTTER.  
MR. L. L. BELL. MR. R. P. PHILIPSON.  
MR. HUGH TAYLOR, JUN. MR. H. T. MORTON.  
MR. GEORGE ELLIOTT. MR. GEORGE COCKBURN.

By any of the bankers in Newcastle-upon-Tyne, and by the Treasurer and Secretaries.  
E. F. BOYD, Moor House, near Durham, Hon. Treasurer.  
G. B. FORSTER, Backworth, near Newcastle, Hon. Sec.  
JOHN TODD, Hetton-le-Hole, Fence Houses, Hon. Sec.



**THE LOVELL CONSOLS MINING COMPANY,**  
Situat in the parish of WENDRON, county of CORNWALL.  
In 1024 shares of £3 each.  
CONDUCTED ON THE "COST-BOOK SYSTEM."  
BANKERS—London and Westminster Bank, London.  
MANAGER—Captain William Chappell, Helston, Cornwall.  
SECRETARIES—Messrs. Bartlett and Chapman.  
OFFICES.—No. 2, BUCKLESBURY, LONDON, E.C.

## PROSPECTUS.

The property of this company is situated in the parish of Wendron, in the county of Cornwall. The sett is in the heart of the Lovell district, and is adjacent to Old Wheal Lovell, East Wheal Lovell, New Wheal Lovell, Trevenen and Tremenehe, and Trumpet Consols.

The lodes running through the sett are a continuation of those of Old Trevenen, Trumpet Consols, and Wheal Lovell, which lodes returned enormous quantities of tin; Trumpet Consols alone returning £300,000, whilst Trevenen and Wheal Lovell each have sold upwards of £200,000 worth. As this sett occupies an unrivalled position geologically, and is undoubtedly rich in tin, as shown by subjoined reports by men of the first standing in the County of Cornwall, it presents all the elements of success, and it is confidently believed that by vigorous and economical working it will well remunerate the adventurers.

The district is celebrated for the immense returns of tin, made in ancient and more notably in modern times. East Wheal Lovell is at the present time making large monthly profits. The Turnpike lode of this mine has lately improved to £25 per fathom, and increasing in value as they get deeper. The property of this company is in the same channel of ground, and presents all the features that can be desired for tin mining.

The stratum is precisely of the same character as that in the neighbouring mines; and as shown by the reports, many points of value can be driven upon at once.

There is an adit passing through the sett, which has been cleared, secured, and timbered, for upwards of 400 fathoms in length. The engine-shaft is sunk 18 fms. below the adit, or 28 fms. from surface. The 12 fm. level has been extended 5 fms. east of engine-shaft, and 40 fms. west; in driving this level westward a large quantity of tin was discovered and taken away, but in the end there is a splendid course of ore, which may at the present moment be worked at a profit; and as this is nearing the great cross-course, which is known to exist a short distance from the end, a very valuable discovery may be confidently anticipated in a short time.

The extensive "old men's" workings, seen at surface, clearly indicate that large quantities of mineral have been taken away, their workings having been extended so far as the water would allow them without the aid of machinery. There is now on the mine in efficient working condition an excellent engine, which is capable of draining the mine to the 80 fm. level; horse-whims; account-house; carpenters' and "lith's" shops; together with all the necessary appliances for carrying on extensive operations.

The principal points of operation at the present time are, the driving of the 12 fm. level west to get under the tin in the adit; the driving of the 12 fm. level east; the communication of the new shaft with the middle and flat-rod lodes; the cross-cut north at that shaft to open up the middle and flat-rod lodes. Upwards of £5000 has already been expended on the property, and as stated in the report of Capt. J. Nancarrow, "The mine is just now getting into working order, and its development might be commenced at once, without any outlay in machinery, and with an unusual prospect of success."

Tin can at once be returned, and looking at the present indications a very moderate outlay cannot fail to remunerate the proprietors.

No call will be necessary for at least six months.

Perusal of the subjoined reports by men celebrated in the county of Cornwall for judgment and integrity is invited, which with the plans will be found interesting, as showing that this property is one of no ordinary promise.

Samples of tin from the 12 fm. level can be seen at the offices of the company.

Prospectuses and forms of application for shares may be obtained at the offices of the company, 2, Bucklebury, London, E.C.

## REPORTS.

*Camborne, Oct. 22, 1866.*—This mine is situated in the parish of Wendron, 3½ miles east of the town of Helston, and is consequently, in one of the richest tin districts in Cornwall, being bounded on the north-east by East Wheal Lovell, on the north by New Wheal Lovell, and on the west by Wheal Lovell and Trevenen and Tremenehe; and is in the immediate vicinity of Trumpet Consols and other mines, which have given large profits. The stratum is granite, as in all the neighbouring mines. The sett is 330 fathoms from east to west, and 450 fathoms from north to south, and is traversed by several of the lodes, which have been so productive in the mines to the westward. The adit has been cleared and secured for 400 fathoms in length, 12 fathoms from surface, and drains the water from three lodes at that depth. The main lode is seen to be worked in the adit for about 20 fathoms long, and is, probably, worked to a much greater length; the backs are all taken away to surface; the bottom is stoned 12 fms. east of the engine-shaft for 3 fathoms long, and to a depth of 5 feet, when the lode would pay well for working, if drained, but there is no level under it. The engine-shaft is sunk 18 fathoms below the adit. The 12 fm. level is driven 5 fathoms east of engine-shaft. There is a little ground stoned near the shaft, and the end yields tin to save. The 12 fm. level is driven 40 fathoms west of the engine-shaft; the first 15 fathoms north thence to end bunches of tin ground, which for half the length might be worked on tribute. The lode for the last 3 fms. driven is 1½ ft. wide, and worth 4½ per fathom; this tin continues to the end. There is a new shaft coming down 4 fathoms north of this level, 15 fathoms behind the end, which might be communicated with the level in two months, when the tribute ground might be set at once. The middle lode is 8 fathoms north of the main lode, and in all probability a great deal of tin will be discovered on this lode. The flat-rod lode is 20 fathoms north of the middle lode, is seen to be worked in the adit for several fathoms in length, and the backs are taken away. The north shaft is on this lode, and is sunk 10 fathoms below the adit. The 10 fm. level is driven 5 fathoms west, the lode is 2 ft. wide, has a strong appearance, and yields good stones of tin. The north lode is 70 fathoms north of the flat-rod lode, and yields some good tin in the eastern part of the sett. There are several important points to which attention should be directed: these are, the clearing of the adit cross-cut north; the driving of the 12 east, on the main lode, to get under the tin in the adit; the driving of the 12 west, as the tin now in the end is likely to improve towards the great cross-course, beyond it; the communication of the new shaft with the 12; the driving of a cross-cut north, at that shaft, to open up the middle and flat-rod lodes; and the sinking of the shafts, for from the great length of tin ground on the several lodes at the adit, which is so extensively worked above, there can hardly fail to be a good mine below. The expense of working would be easy, for the water is but little. There is a small but excellent horizontal engine, with flat-rod to the north shaft, which would put the mine deeper than it now is. The pitwork in both shafts is good, the mine is just getting into working order, and its development might be commenced at once without an outlay in machinery, and with an unusual prospect of success. JOHN NANCARROW.

*Lovell Consols, Nov. 20, 1866.*—We have inspected the above mine to-day, and beg to hand you the following as our report:—The engine-shaft is sunk to the 12, and driven on the lode about 10 fathoms east and 40 fathoms west; and in the east 2 fathoms of driving west. The ground has lately improved, and the lode more productive, now yielding good work for tin; and as it nears the great cross-course, which is about 10 or 15 fathoms west of the present end, and judging from the "old men's" workings, seen at surface, both east and west of the cross-course, a large quantity of tin must have been raised; and we would recommend a vigorous exploration in this direction, on this lode, which will be under the old workings. We have examined the surface, and we have never seen so much shallow workings done by the ancient workers in any mining district, which is sufficient proof that large quantities of tin have been raised. These workings are on a continuation of Old Wheal Lovell, Trumpet Consols, and Trevenen and Tremenehe lodes, which have yielded large quantities of tin, and given great profits to the adventurers. The work already done, such as clearing adits and shafts, erecting engine and pitwork, and necessary buildings for the operations of the mine, will be a great advantage for the future workings. Seeing the numerous lodes this sett contains, and being in a good mining district, we have great confidence in recommending a vigorous prosecution of the whole of the lodes, and when properly wrought on will, we believe, prove remunerative.

JOHN CURTIS, Mineral Agent for John J. Rogers, Esq., and Manager of Leeds and St. Aubyn Mines.  
STEPHEN HARRIS, Agent of Great Wheal Vor.

*Penhale Wheal Vor, Nov. 20, 1866.*—The following is my report of Lovell Consols, which is situated in the centre of the Lovell district. The sett contains nine known lodes, running parallel, and in the same channel of ground as that of East Wheal Lovell, and also traversed by the same cross-courses. The sett is bounded on the west by Old Wheal Lovell, and on the north-east by East Wheal Lovell; but the lodes are a continuation of Old Trevenen, Trumpet Consols, and Old Wheal Lovell. Trevenen Mine having paid in one year alone dues amounting to more than £20,000. At East Wheal Lovell and Trumpet Consols they are also making good monthly profits. A considerable outlay has already been incurred in erecting engine, smiths' and carpenters' shops; material and account houses, horse-whims, 2-in. and 3-in. pitwork in engine and flat-rod shafts, surface rods, with pulley-stands, &c., and everything requisite for carrying on the mine. A large amount was expended in clearing and securing the shallow adit, which is upwards of a mile in length, and in clearing and securing cross-cut, north and south, at the adit level. The engine-shaft is sunk 18 fathoms below the adit, on Trevenen main lode; and a 12 fathom level extended west about 40 fathoms, where the lode has varied in size from 1 to 2 feet wide, and for the last 5 fathoms driven the lode has gradually improved, and in the present end worth for tin £5 per fm., with indications of a greater improvement, on getting nearer the cross-course, to the west of which the former workers raised from back or bottom of the adit level a large quantity of rich tinstuff. In conclusion, I beg to state that with the present prospects in the 12 fm. level end west the plant, machinery, and buildings now on the mine, and the water in fork, I consider it to be a speculation second to none in the district, as tin can be raised at once. WILLIAM CHAPPELL.

*Nov. 26.*—The sett is bounded on the west by Old Wheal Lovell, Trevenen and Tremenehe, and Trumpet Consols, and on the north-east by East Wheal Lovell, which are four of the richest mines in the Wendron district—Trevenen and Tremenehe Mine having paid to the lord upwards of £20,000 in one year alone for dues, and are now making good monthly profits. A considerable outlay has already been incurred in erecting engine, smiths' and carpenters' shops; material and account houses, horse-whims, 2-in. and 3-in. pitwork in engine and flat-rod shafts, surface rods, with pulley-stands, &c., and everything requisite for carrying on the mine. A large amount was expended in clearing and securing the shallow adit, which is upwards of a mile in length, and in clearing and securing cross-cut, north and south, at the adit level. The engine-shaft is sunk 18 fathoms below the adit, on Trevenen main lode; and a 12 fathom level extended west about 40 fathoms, where the lode has varied in size from 1 to 2 feet wide, and for the last 5 fathoms driven the lode has gradually improved, and in the present end worth for tin £5 per fm., with indications of a greater improvement, on getting nearer the cross-course, to the west of which the former workers raised from back or bottom of the adit level a large quantity of rich tinstuff. In conclusion, I beg to state that with the present prospects in the 12 fm. level end west the plant, machinery, and buildings now on the mine, and the water in fork, I consider it to be a speculation second to none in the district, as tin can be raised at once. WILLIAM CHAPPELL.

E. KEMPTHORNE; W. H. MARTIN, Agent at Penhale Wheal Vor.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the ABOVE-NAMED COMPANY.**—Notice is hereby given, that a PETITION for the WINDING-UP of the ABOVE-NAMED COMPANY by the Court was, on the 30th day of November last, presented to the Vice-Warden of the Stannaries, by William Cock Vivian and Joseph Vivian, creditors and also contributories of the said company, and that the said petition is directed to be heard before the Vice-Warden, at No. 18, Thurlston-road, Falmouth, in the county of Middlesex, on Thursday, the 20th day of December inst., at Twelve o'clock at noon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioners, their solicitors, or agents, of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same, from the petitioners, or their solicitors, within 24 hours after requiring the same, on payment of the regulated charge per folio. Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 17th day of December inst., and notice thereof must, at the same time, be given to the petitioners, their solicitors, or agents.

TREHERNE AND WOLFESTAN, 75, Aldermanbury  
(Solicitors for the Petitioners).  
CARLYON AND PAULL, Truro  
(Agents of the said Solicitors).  
Dated the 4th day of December, 1866.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the WEST WHEAL VOR MINING COMPANY.**—By an order made by His Honour the Vice-Warden of the Stannaries in the above matter, dated the 3d day of December inst., on the petition of William John Rawlings, of Hayle, within the said Stannaries, a creditor and also a shareholder of the said company, it was ordered that the WEST WHEAL VOR MINING COMPANY should be WOUND-UP by this Court, under the provisions of the Companies Act, 1862.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.  
Dated Truro, 4th December, 1866.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the NEW WHEAL MARTHA MINING COMPANY.**—By an order made by His Honour the Vice-Warden of the Stannaries in the above matter, on the 22d day of November last, on the petition of Richard Puckey, Thomas Smitham, James Littlejohn, and Daniel Littlejohn, creditors of the said company, it was ordered that the voluntary liquidation of the said company be continued, subject to the supervision of this Court.

HODGE, HOCKIN, AND MARRACK, Truro  
(Agents for Mr. Peter Lanneston, Solicitor for the Petitioners).  
Dated Truro, December 3d, 1866.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the ROSKEAR MINING COMPANY.**—The Registrar of the Court has appointed Friday, the 21st day of December inst., at Eleven o'clock in the forenoon, at the Registrar's Office, at Truro, to SETTLE the LIST of CONTRIBUTORIES of the ABOVE-NAMED COMPANY now made out and deposited at the said office. WM. MICHELL, Registrar of the said Court.  
Dated the 6th day of December, 1866.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the WHEAL HARTLEY MINING COMPANY.**—The Registrar of the Court has appointed Monday, the 11th day of December inst., at Eleven o'clock in the forenoon, at the Registrar's Office, at Truro, to SETTLE the LIST of CONTRIBUTORIES of the ABOVE-NAMED COMPANY now made out and deposited at the said office. WM. MICHELL, Registrar of the said Court.  
Dated the 6th day of December, 1866.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**IN THE MATTER OF THE COMPANIES ACT, 1862, and of the TRESKERBY MINING COMPANY.**—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUESTED, on or before the 19th day of December inst., to SEND IN THEIR NAMES AND ADDRESSES, and the AMOUNTS OF THEIR CLAIMS, to the Registrar of the said Court at Truro.—Dated Truro, December 6th, 1866.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**PURSUANT to a Decree made in the Cause of Martyn v. Hambly, the CREDITORS in respect of MULBERRY HILL MINE, in the parish of Lanivet, within the said Stannaries, are REQUESTED, on or before Wednesday, the 19th day of December inst., to COME IN and PROVE THEIR DEBTS before the Registrar of the said Court, at his office, in Truro, or in default thereof they will be peremptorily excluded the benefit of the said Decree.**—Dated Registrar's Office, Truro, December 6th, 1866.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

**MARTYN V. HAMBLY, IN RE MULBERRY HILL MINE.**  
TO BE SOLD, under the direction of the Registrar of this Court, BY PUBLIC AUCTION, on Thursday, the 20th day of December inst., at MULBERRY HILL MINE, in the parish of Lanivet, within the said Stannaries, the undermentioned MINING MACHINERY, MATERIALS, and OTHER EFFECTS, viz.:—  
ONE 20 in. cylinder ROTARY ENGINE, with two fly-wheels, for stamping and pumping; and a variety of other articles and effects in general use in mines. Further information may be had on application to the officer of the Court in possession thereof, or to  
HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.  
Dated Registrar's Office, Truro, December 6th, 1866.

COUNTY OF GLAMORGAN, PARISH OF CADOXTON-JUXTA-NEATH.  
SALE OF AN IMPORTANT FREEHOLD ESTATE.

MR. THOMAS THOMAS has been favoured with instructions to SELL, BY AUCTION, at the Castle Hotel, Neath, on Thursday, the 13th December, 1866, at Three o'clock in the afternoon, in one lot, the important FREEHOLD ESTATE, containing in the whole upwards of ONE HUNDRED ACRES, situate adjoining the turnpike road leading from Neath to Swansea, and close to the Llan-amlet Station of the Great Western Railway, known as "LONLAS," comprising a delightfully situated and handsome modern RESIDENCE, with ornamental grounds, cultivated lands, and woodland. A highly valuable BUILDING SITE, with extensive frontage for dwelling-houses, cottages, &c., also admirably adapted for the erection of IRON, TIN-PLATE, WIRE, or other works, together with a valuable FIRE-BRICK MANUFACTORY, five dwelling-houses, and the reversion in fee of a public-house and nineteen cottages and premises, held on lease by various parties at annual ground rents. A plan of the estate may be inspected, and further particulars obtained, on application to Messrs. NEWMAN, LYON, and NEWMAN, Solicitors, 7, King's Bench-walk, Temple, London, and Yeovil, Somerset; to Mr. KEMPTHORNE, Solicitor, Neath; or to the Auctioneer, at his offices, at Neath and Swansea.

**TO BE DISPOSED OF, BY PRIVATE TREATY, the WESTMINSTER LEAD MINES.**—These Mines are situated in the parish of LLANARMEN, and within six miles of the town of MOLD, FLINTSHIRE. The sett extends two miles in length on the course of the veins, and about half a mile in breadth, and have been worked by the present company for the last 25 years, and through the death of several of them the present survivors are under the necessity of winding-up the concern. The eastern portion of the sett is now in full operation, and on which are THREE STEAM-ENGINES erected, for the purpose of pumping, crushing, &c., with the necessary plant, all of which are now in good working order.

Plans and sections can be viewed, and every information obtained, from Capt. FLOYD, on the mines.

## SALE OF VALUABLE COLLIERIES.

**TO BE SOLD, BY PRIVATE CONTRACT, all that VALUABLE PROPERTY known as BIRCHGROVE GRAIGOLA COLLIERIES, consisting of about FIVE HUNDRED ACRES of the BEST STEAM COAL (on the Government list), unworked, and situate about five miles from the port of Swansea.**

The above collieries comprise two walled shafts, fitted on the newest and most improved principle, with FOUR powerful STEAM-ENGINES (two large, nearly new, with horizontal cylinders; and houses, buildings, workshops complete), with residences, dwelling-houses, &c. All the eligible extensive contracts and business made over to the purchaser.

This property is intersected by the Swansea Vale Railway for upwards of a mile, and the two collieries communicate therewith by convenient sidings, and are in close proximity to the Great Western Railway.

Also the LEASE of wharf for shipping at Swansea, including all interest, wagons, trams, &c., of every description necessary, and in perfect order.

Also, the LEASE of about four hundred acres of surface land, in good farming order, with homesteads, stock, &c.

Apply to W. M. HADCOCK, Esq., 31, Fenchurch-street, London; or to Mr. EVAN DASIEN, mining engineer and estate agent, Christiana-street, Swansea.

**TO BE SOLD, cheap, a PORTABLE ENGINE of 14 horse power, double cylinder, of first-class construction, workmanship, and material. Winding gear to order. SECOND-HAND PORTABLES FOR SALE.**—Apply to Messrs. BARROWS and CARMICHAEL, engineers, Banbury, Oxon.

## IMPORTANT SALE.

**COPPER AND PYRITES MINES IN NORWAY.**  
On Tuesday, the 15th day of January next, at Eleven o'clock A.M., will be SOLD, BY PUBLIC AUCTION, in the office of the Sheriff (Sorenskriver) in Orkeden, near Drontheim, in Norway, the mining property of Messrs. Fritz, Perez, Ashley, and Co., viz.:—AAMODT'S and HOYDALEN'S COPPER and PYRITES MINES, in MELDALEN, with MACHINERY and SUNDRIES, including a place for laying the ore, and a quay or pier on the beach at Orkeden, with dwelling-houses at the mines and near the casting-house. The mines last year yielded about 6500 tons good pyrites, and 100 tons rich copper ore. For further particulars, apply to Messrs. HEINR. MEYER and Co., in Drontheim; Messrs. HARDING, WHISKEY, GIBBONS, and Co., No. 3, Bank-buildings, London, accountants; Messrs. W. MURRAY, SON, and HUTCHINS, 11, Birchington-lane, London, solicitors; and Mr. EDWARD ROSS BRYANT, Newcastle-on-Tyne.

## TO CAPITALISTS, PUBLIC COMPANIES, AND OTHERS.

Particulars of a VALUABLE and EXTENSIVE SLATE AND COPPER PROPERTY FOR IMMEDIATE DISPOSAL BY PRIVATE CONTRACT, situate in NORTH WALES, within about four miles of shipping port, to which place a railway, running for nearly two miles parallel to and within a few hundred yards of the estate, will enable the produce to be conveyed at an almost nominal cost. There are upon the property four or five very EXTENSIVE SLATE VEINS and a VALUABLE COPPER MINE. Three quarries have been opened, and the works in either case brought nearly to completion, several cargoes of excellent slates having been sold, as also a large quantity of very rich copper ore. There are about 800 yards of levels, 100 yards of shafts, about one mile of iron rails laid down, foreman's house, magazine, &c.

The lease is for a term of NINETEEN YEARS, WITHOUT ANY RENT OR ROYALTY WHATSOEVER. These unusually favourable terms very much enhance the value of the property. There are reports and opinions of seven or eight of the most eminent authorities as well as other opinions as to the capabilities and nature of the property. In addition to the three quarries alluded to another vein of slate has been opened upon and tested. The property offers unusual facilities for sub-letting in four or five divisions, exclusive of the copper, the quarries being far apart, and the existing works as advanced in either case, either division being sufficiently large for one company or firm.

The property possesses great natural advantages. Many thousands of pounds have been expended on the works, which have been carried out in a thoroughly substantial manner, the heavy expenditure of capital and inevitable loss of time attending the opening of all quarries having been already incurred. The terms of purchase will be made easy; one-third will be required in cash, half of which must be paid at once, and half at a date to be decided upon. Two-thirds of the whole purchase money may remain on mortgage of the lease for four or five years if desired.

Application in first instance to be made to "M. S. A." Deacon's Library, Leadenhall-street, London.

## NICHOLLS, MATHEWS, AND CO., ENGINEERS,

BEDFORD IRONWORKS, TAVISTOCK.  
MANUFACTURERS OF STEAM ENGINES OF EVERY DESCRIPTION, made on the BEST and NEWEST PRINCIPLES. We beg more especially to call the attention of the public to the MANUFACTURE of our BOILERS, which have been tested by most of our leading engineers. PUMP WORK CASTINGS of EVERY DESCRIPTION, both of brass and iron. HAMMERED IRON and HEAVY SHAFTS OF ANY SIZE. CHAINS made of the best iron, and warranted. MINERS' TOOLS and RAILWAY WORK of EVERY DESCRIPTION. ALL ORDERS FOR ABROAD RECEIVE their BEST ATTENTION. NICHOLLS, MATHEWS, and Co. have had 20 years' experience in supplying machinery to foreign mines, and selecting experienced workmen to erect the same, where required.

Messrs. NICHOLLS, MATHEWS, and Co. have always a LARGE STOCK of SECOND-HAND MINE MATERIALS in stock, and at moderate prices.

## PATENT FLEXIBLE TUBING,

AND BRATTLE CLOTH FOR MINES,  
MANUFACTURED BY  
ELLIS LEVER,  
PATENTEE,  
WEST GORTON WORKS, MANCHESTER.

## RAILWAY CARRIAGE COMPANY (LIMITED)

ESTABLISHED 1847.  
OLDBURY WORKS, NEAR BIRMINGHAM.  
MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, and EVERY DESCRIPTION OF IRONWORK.  
Passenger carriages and wagons built, either for cash or for payment over a period of years.  
RAILWAY WAGONS FOR HIRE.  
CHIEF OFFICES.—OLDBURY WORKS, NEAR BIRMINGHAM.  
LONDON OFFICES.—6, STOREY'S GATE, GREAT GEORGE STREET, WESTMINSTER.

## THE BEVERLEY IRON AND WAGON COMPANY

(LIMITED).  
MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, WROUGHT AND CAST IRON CARRIAGE AND WAGON WHEELS, AXLES, HAMMERED IRON, and HEAVY SMITHS' WORK FOR ENGINEERS, &c. BRASS and IRON FOUNDRERS. MAKERS OF PORTABLE FARM RAILWAYS, TURNABLES, CROSSINGS, SWITCHES, &c. AGRICULTURAL MACHINISTS. MANUFACTURERS OF FIELD ROAD, and BARN IMPLEMENTS. PATENT LORRY, CART, and CARRIAGE WHEELS, with WOOD or IRON RAYS. REAPING MACHINES, CLOD CRUSHERS, CORN MILLS, &c. SAW MILL PROPRIETORS. GENERAL TIMBER CONVERTERS for home and foreign RAILWAYS, STATIONS, BARRACKS, EXHIBITIONS, &c.  
IRONWORKS BEVERLEY, YORKSHIRE.  
JAMES DEWHIRST, Sec.

## THE BIRMINGHAM WAGON COMPANY (LIMITED)

MANUFACTURE RAILWAY WAGONS OF EVERY DESCRIPTION, for HIRE and SALE, by immediate or deferred payments. They have also wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes. Wagons in working order maintained by contract.  
EDMUND FOWLER, Sec.

## WAGON WORKS.—SMITHWICK, BIRMINGHAM.

Loans received on Debenture; particulars on application.  
London Agent—Mr. E. B. SAVILE, 67, Victoria-street, Westminster, S.W.

## STAFFORDSHIRE WHEEL AND AXLE COMPANY

(LIMITED).  
MANUFACTURERS OF RAILWAY CARRIAGE, WAGON, and CONTRACTORS' WHEELS and AXLES, and other IRONWORK, used in the CONSTRUCTION OF RAILWAY ROLLING STOCK.  
CHIEF OFFICES,  
3 and 4, EXCHANGE BUILDINGS, BIRMINGHAM.

## COAL CUTTING MACHINERY.

THE WEST ARDSLEY COMPANY having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY TO MAKE CONTRACTS for the CONSTRUCTION and USE of their MACHINES.

The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEN the COST and IMPROVE the average SIZE of the COAL, to LIGHTEN the LABOUR, and also to MODIFY the SANITARY CONDITIONS of the MINE.

All communications to be made to Messrs. FIRTH, DONNISTHORPE, and BOWEN, No. 8, Britannia-street, Leeds.

**NOTICE.**—The WEST ARDSLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, or USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

## NITRO-GLYCERINE, OR NOBEL'S PATENT BLASTING

OIL.—THE EXPLOSIVE FORCE OF THIS BLASTING OIL IS TEN TIMES that of GUNPOWDER, and the ECONOMY and SAVING in TIME, LABOUR, and COST in removing granite and hard rock, in sinking shafts, driving tunnels, and opening forward in close ends is immense.

It will not explode from a spark or fire, but from concussion alone, and is consequently much less dangerous than gunpowder or gun-cotton.

Being heavier than water it sinks to the bottom of a wet hole, no other tamping than water being required.

One charge of this blasting oil, which is now being used with wonderful effect in all the largest slate quarries in North Wales, will displace as much slate rock as four or five charges of gunpowder; and its great force, acting on a large quantity of good slate rock, shakes and displaces it at the natural joints of cracks, without damaging the slabs nearly so much as the more numerous blasts from any other blasting material would do.

This invaluable quarrying agent may now be obtained from Messrs. WEBB and Co., Carnarvon, sole consignees from the patentee.

## VULCANISED INDIA-RUBBER

FOR ENGINEERS AND MECHANICAL PURPOSES.  
VALVES—for Marine and Land Engines' Steam Packing, sheet or roll.  
DELIVERY AND SUCTION HOSE—for Brewers, Distillers, Fire-engines, Gardens, &c.  
MACHINE BANDS—for all descriptions of Machinery.  
GAS TUBING—with or without wire.  
GAUGE GLASS RINGS; WASHERS.

Price Lists free on application.

SOUTHWARK INDIA-RUBBER COMPANY (LIMITED).  
67, GRANGE ROAD, BERMONDSEY, LONDON, S.E.

## HUNT'S PATENT ORE SEPARATOR AND GOLD WASHING

MACHINE.—Information respecting the above machines can be obtained on application to Mr. WILLIAM WARD, 95, Bishopsgate-street Within, or Mr. JOHN HUNT, at his works, Porthleven, Helston, Cornwall.

N.B.—Any person making or using the above machines, without previously obtaining a license, will be proceeded against according to law.

## CREASE'S NEW AND IMPROVED PATENT BORING

MACHINE.—In consequence of the various and IMPORTANT IMPROVEMENTS that an experience of several years has enabled the inventor to introduce into these machines, he can with the most perfect confidence recommend them for their increased DURABILITY, SIMPLICITY, ECONOMY, and SPEED to be attained by their adoption in DRIVING LEVELS or DRIFTS.

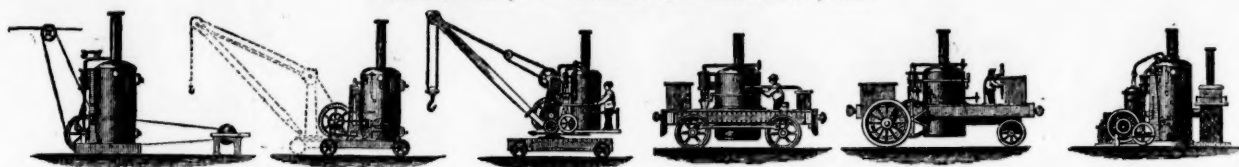
The inventor has made arrangements to supply them in any quantity, with warranty. Orders executed according to their date of priority.

Address, EDWARD S. CREASE, Tavistock Devon.



## CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



STATIONARY ENGINE, From 1 to 30-horse power. No building required.  
PORTABLE HOIST, 1 to 30-horse power. With or without jib.  
STEAM CRANE, 30 cwt. to 20 tons. For wharf or rail.  
CONTRACTORS' LOCOMOTIVE, 6 to 27-horse power. For steep inclines and quick curves.  
TRACTION ENGINES, 6 to 27-horse power. Light and heavy.  
SHIP'S ENGINE, Winding, Cooking, and Distilling. Passed by Government for half water.

\* These engines were selected by H.M. Commissioners to receive and send away the heavy machinery in the International Exhibition.

From the STRENGTH, SIMPLICITY, and COMPACTNESS of these ENGINES they are extensively USED for GENERAL PURPOSES, and also in situations where STEAM-ENGINES OF THE ORDINARY CONSTRUCTION CANNOT BE APPLIED.

## ALEXANDER CHAPLIN AND CO., PATENTEES AND SOLE MANUFACTURERS,

CRANSTONHILL ENGINE WORKS, GLASGOW.

LONDON OFFICE,—11, ADAM STREET, ADELPHI, W.C., AND LONDON WORKSHOPS, 19, CORNWALL ROAD, LAMBETH, S.

ENGINES OF EACH CLASS KEPT IN STOCK for SALE or HIRE, and ALL OUR MANUFACTURES GUARANTEED as to EFFICIENCY, MATERIAL, and WORKMANSHIP.

Parties are cautioned against using or purchasing imitations or infringements of these patent manufactures.

BICKFORD'S PATENT SAFETY-FUSE OBTAINED THE PRIZE MEDALS at the ROYAL EXHIBITION of 1861, at the INTERNATIONAL EXHIBITION of 1862, in London, and at the IMPERIAL EXPOSITION held in Paris, in 1865.



BICKFORD, SMITH, AND CO., of TUCKINGMILL, CORNWALL, MANUFACTURERS OF PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to the trade and public to the following announcement:—EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH the COLUMN of GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS as THEIR TRADE MARK.

Gun-Cotton—By Royal Letters Patent.



PRENTICE'S BLASTING GUN-COTTON PRODUCES NO SMOKE, and having been further REDUCED IN PRICE is now by far the CHEAPEST as well as the SAFEST material which can be used in any description of mining or quarrying work.

Sample cases, together with every information, may be obtained from—THOMAS PRENTICE AND CO., 173, FENCHURCH STREET, LONDON, E.C. AGENT—Mr. Thorne.

GUN-COTTON has been constantly used with great success in the tunnel of the Aberdeen Water-Works, lately opened by Her Most Gracious Majesty the Queen.

THOMAS TURTON AND SONS, MANUFACTURERS OF

CAST STEEL for PUNCHES, TAPS, and DIES, TURNING TOOLS, CHISELS, &amp;c.

CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT and CRANK AXLES, SHAFTS and

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DOUBLE SHEAR STEEL, FILES MARKED

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GERMAN STEEL, WM. GREAVES &amp; SON.

Locomotive Engine, Railway Carriage and Wagon Springs and Buffers.

SHEAF WORKS AND SPRING WORKS, SHEFFIELD.

LONDON WAREHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C., Where the largest stock of steel, files, tools, &amp;c., may be selected from.

S. OWENS AND CO. (LATE CLINTON AND OWENS), WHITEFRIARS STREET, FLEET STREET, LONDON, E.C., HYDRAULIC AND GENERAL ENGINEERS, MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION FOR HAND, HORSE, STEAM, OR WATER POWER.

BORING TOOLS.

BORING TOOLS OF ALL DESCRIPTIONS, for Testing Ground and for Artesian Wells.

PORTABLE, SINGLE, and DOUBLE BARREL, and other PUMPS, and PORTABLE STEAM ENGINES.

CRABS, CRANES, PULLEY BLOCKS, and HOISTING TACKLE.

ANY OF THE ABOVE CAN BE HAD ON HIRE OR PURCHASE.

Full information, Drawings, Price Lists, &amp;c., relating to the above, and to Hydraulic Machinery of all descriptions—Crabs, Pulleys, Blocks, and Hoisting Tackle of superior manufacture—may be had on application.

CHARLES DAVEY AND CO., SAFETY FUSE MANUFACTURERS, ST. HELEN'S JUNCTION, LANCAIRE.

A. JEFFERY, MATHEMATICAL INSTRUMENT MAKER, CAMBORNE, CORNWALL.

TO MINE MANAGERS, AGENTS, AND SURVEYORS.

GENTLEMEN,—I most respectfully beg to inform you that my Manufacture for Mine Surveying and Drawing Instruments is now in full operation, and the THEODOLITES, DIALS, LEVELS, MEASURING CHAINS, ENGINE COUNTERS, ASSAY SCALES and WEIGHTS, PROTRACTORS, CASES of DRAWING INSTRUMENTS, and all kinds of SURVEYING and MAPPING INSTRUMENTS are kept in stock or made to order on the shortest notice.

Having been confined for several years exclusively to the manufacture of first-class Mine Surveying Instruments—which profession I trust I have to some degree mastered both practically and theoretically—I confidently venture to solicit an inspection of my manufactures, which cannot be surpassed for accuracy and general good quality by any firm either in the metropolis or the provinces.

All kinds of repairs and alterations made to instruments.

All work executed under my own direct supervision, and none but experienced assistants employed.

I remain, Gentlemen, yours obediently, A. JEFFERY.

Camborne, July 28, 1866.

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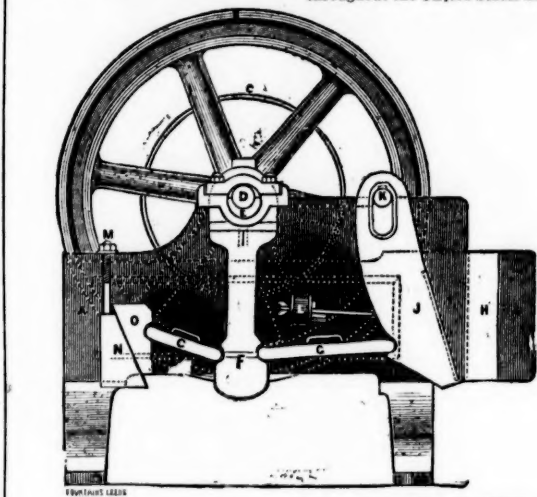
Camborne, July 28, 1866.

IMMENSE SAVING OF LABOUR. TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT GRINDERS, MCADAM ROAD MAKERS, &c., &c.

## BLAKE'S PATENT STONE BREAKER, OR ORE CRUSHING MACHINE,

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials:—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last twelve months, and Captain Morcom reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour. For the Parys Mining Company, JAMES WILLIAMS.

H. R. Marsden, Esq. Ecton Emery Works, Manchester.—We have used Blake's patent stone breaker made by you, for the last 12 months, crushing emery, &c., and it has given every satisfaction. Some time after starting the machine a piece of the moveable jaw, about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of the machine to the size fixed for crushing the emery. For the Parys Mining Company, THOS. GOLDSWORTHY & SONS.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so simple an article, but now think it money well spent. WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work admirably, crushing the hardest stones and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes, for fine road metal, free from dust. Messrs. ORD and MADDISON, Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons of limestone or ore per day (10 hours), at a saving of 4d. per ton. JOHN LANCASTER.

Ovoca, Ireland.—My crusher does its work most satisfactorily. It will break 10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

General Fremont's Mines, California.—The 15 by 7 in. machine effects a saving of the labour of about 30 men, or \$75 per day. The high estimation in which we hold your invention is shown by the fact that Mr. Park has just ordered a third machine for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—

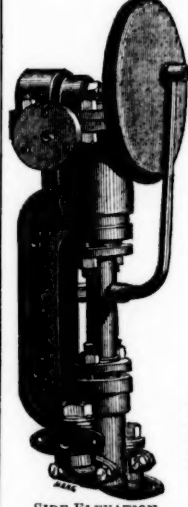
## H. R. MARSDEN, SOHO FOUNDRY,

MEADOW LANE, LEEDS,

ONLY MAKER IN THE UNITED KINGDOM.

## GIFFARD'S PATENT INJECTOR COMPLETELY SUPERSEDED BY THE NEW PATENT DONKEY STEAM PUMP.

[SPECIFICATION.]



SIDE ELEVATION.

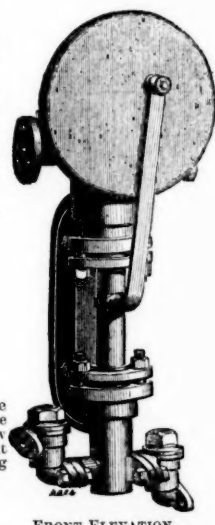
This Pump is constructed on an entirely novel and simple principle, there being only a crank-shaft and fly-wheel of small size, the slide-valve being worked into the crank-shaft by means of a steel crank and friction roller, thus dispensing with eccentric rod, and straps. All the working parts are made of steel, hardened and polished. The cylinder and pump are in one casting, and bored throughout the body of the pump as well as the stuffing-box. The pump-ram is of the best gun-metal, being cast in one piece with the piston and piston-rod, and fitted accurately to the bored body of the pump, thus ensuring a nearly perfect vacuum in pumping. The stuffing-box glands are also of gun-metal polished. The valves and boxes are of the best gun-metal, the valves being of the spherical description, the covers fitted with brass cages, and the joints faced metal to metal. The slide-valve is of hard bell-metal. The steam-chest, with cylinder end, is in one piece, and may be removed without disturbing either steam or exhaust pipes. The whole engine may be taken to pieces and put together under steam in fifteen minutes, without disturbing any pipes whatever.

| Giffard's Injector.                                      |       |         |              |              | Price of Giffard's Injector.        |                    |
|--|-------|---------|--------------|--------------|-------------------------------------|--------------------|
| Size.  | Ram.  | Stroke. | Approx. h.p. | Approx. gal. |                                     |                    |
| No. 4  | 1 1/2 | 3       | 15           | 230          | £10 10                              | In brass. In iron. |
| 5  | 1 3/4 | 3       | 22           | 350          | 12 12                               | 15 13              |
| 6  | 1 3/4 | 4       | 30           | 500          | 14 14                               | 23 10              |
| 7  | 2     | 4       | 40           | 700          | 17 0                                | 27 10              |
| 8  | 2 1/2 | 5 1/2   | 55           | 900          | 19 10                               | 32 10              |
| 9  | 2 3/4 | 5 1/2   | 75           | 1150         | 22 10                               | 36 10              |
| 10   | 2 3/4 | 6 1/2   | 90           | 1420         | 25 10                               | 40 10              |
| 11   | 3     | 6 1/2   | 120          | 1720         | 28 10                               | 45 10              |
| 12   | 3 1/2 | 9       | 120          | 2000         | 31 10                               | 49 10              |
| N.B.—Sizes and capacities similar to Giffard's Injector. |       |         |              |              | All guaranteed to work efficiently. |                    |

Terms: Nett Cash on Delivery in London. Giffard's injector will not force water over 120° Fahr., while these pumps possess the great advantage of being able to pump boiling water. Giffard's injector will not draw water over 6 ft. deep, while these pumps draw water 15 ft., and by using one size larger than required for forcing the quantity will draw 30 ft. deep. These pumps begin to work at 15 lbs. per square inch; to work at a lower pressure the next larger size must be used. Sizes up to No. 10 kept in stock. Larger sizes, and special pumps for throwing water into tanks, or as fire-engines, can be made in a few days on application to the undersigned.

BROWN, WILSON, AND CO.,

80, CANNON STREET, E.C.; AND VAUXHALL IRONWORKS, S.



FRONT ELEVATION.

AMERICAN JOURNAL OF SCIENCE AND ARTS, published by Profs. SILLIMAN and DANA (aided editorially by Profs. Gray, Agassiz, Gibbs, Johnson, Brush, and Newton), at New Haven, Connecticut, every other month, commencing each year with January. In numbers of 140 pages each, making two volumes a year. Now in its forty-eighth year. The ninety-second volume (or forty-second volume of second series) commences on July 1, 1866. Messrs. Trübner and Co., 60, Paternoster-row, London, agents.

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Published every morning, price 1d.

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CHARLES RYLAND AND SONS' WEEKLY REPORT ON THE IRON TRADE.—The "WEEKLY REPORT ON THE IRON TRADE" is a reliable authority on all matters connected with the various trades of the Iron and Mining Districts of North and South Staffordshire, Cleveland District, North and South Wales, and Scotland. The list of subscribers comprises the names of the leading firms in the great centres of industry above referred to. It contains complete, authentic, and unbiased information relative to the various branches of the metallic trades in all parts of the country.

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NERVOUS DEBILITY: ITS CAUSE AND CURE.—Before seeking aid from the so-called remedies without medicine, read this valuable work on the Treatment and Cure of Nervous and Physical Debility, Loss of Appetite, Pains in the Back, Spermatorrhoea, &c., with Plain Directions for Perfect Restoration to Health. Sent post free to any address, on receipt of two postage stamps. Letters of enquiry or details of case promptly answered. Address, Dr. SMITH, 8, Burton-crescent, London, W.C.

DR. WATSON (of the Lock Hospital), F.R.S., Member of the College of Physicians and Surgeons, on the SELF-CURE OF NERVOUS and PHYSICAL DEBILITY, Lowness of Spirits, Loss of Appetite, Timidity, Incapacity for Exertion, &c., with means for perfect restoration. Sent free to two stamps by Dr. WATSON, No. 1, South-crescent, Bedford-square, London. Consultations daily from 11 till 3, and 6 till 8; Sundays, 10 till 1.

Just published, post free for two stamps, true causes of Nervous, Mental, and Physical Debility, Lowness of Spirits, Indigestion, Want of Energy, Premature Decline, with plain directions for perfect restoration to health and vigour, WITHOUT MEDICINE. Sent free on receipt of two stamps, by W. HILL, Esq., M.A., Berkeley House, South-crescent, Russell-square, London, W.C.

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N.B.—Cases of recent infection cured in two days. Just published, free six stamps, LITERARY PHOTOGRAPHS; or SECRET LIFE PICTURES. In a series of Six Tableaux. Dedicated to husbands, bachelors, and widowers: with medical hints to all classes of both sexes. Sent post free on receipt of six stamps, by H. JAMES, Esq., Percy-house, Bedford-square, London.



## THE MINING SHARE LIST.

## BRITISH DIVIDEND MINES.

| Shares. | Mines.                            | Paid.    | Last Pr. | Bus. done.  | Total divs. Pershare. | Last paid.  |
|---------|-----------------------------------|----------|----------|-------------|-----------------------|-------------|
| 1500    | Alderley Edge, c. Cheshire        | 10 0 0   | —        | —           | 8 7 8. 0 10 0         | Aug. 1866   |
| 200     | Bottallack, c. St. Just           | 91 5 0   | —        | —           | 488 15 0. 5 0 0       | May, 1866   |
| 10000   | British Slate Company             | 9 0 0    | —        | —           | 9 per cent.           | Sept. 1866  |
| 1000    | Bronfloy, c. Cardigan             | 12 0 0   | —        | —           | 8 7 0. 0 6 0          | Aug. 1866   |
| 6400    | Cashwell, c. Cumberland           | 2 10 0   | —        | —           | 0 1 6. 0 1 6          | Aug. 1866   |
| 916     | Cargill, s. Newlyn                | 15 5 7   | —        | —           | 13 15 0. 1 0 0        | Feb. 1866   |
| 867     | Cwm Erddin, c. Cardiganshire      | 7 10 0   | 20       | —           | 20 10 0. 1 0 0        | Oct. 1866   |
| 128     | Cwmystwili, c. Cardiganshire      | 60 0 0   | —        | —           | 367 10 0. 5 0 0       | Oct. 1866   |
| 200     | Derwent Mines, s. Durham          | 300 0 0  | —        | —           | 167 0 0. 5 0 0        | Oct. 1866   |
| 1024    | Devon Gt. Consols, c. Tavistock   | 1 0 0    | 435      | —           | 1042 0 0. 6 0 0       | Nov. 1866   |
| 358     | Dolcoath, c. c. Camborne          | 128 17 6 | 320      | —           | 816 10 0. 2 0 0       | Oct. 1866   |
| 6144    | East Caradon, c. St. Cleer        | 2 14 6   | 34       | 4 3/4       | 14 5 6. 0 2 6         | July, 1866  |
| 300     | East Darren, c. Cardiganshire     | 32 0 0   | —        | —           | 136 10 0. 2 0 0       | Nov. 1866   |
| 128     | East Pool, c. Pool, Illogan       | 24 5 0   | 400      | —           | 387 10 0. 2 10 0      | Nov. 1866   |
| 5000    | East Rosewarne, c. c. Gwennar     | 2 15 0   | —        | —           | 0 10 0. 1 6 1         | Jan. 1866   |
| 1906    | East Wheal Lovell, c. Wendron     | 3 9 10   | 10       | 9 9/10      | 2 7 0. 0 5 6          | May, 1866   |
| 2800    | Foxdale, c. Isle of Man           | 25 0 0   | —        | —           | 69 0 0. 10 0 0        | Oct. 1866   |
| 5000    | Frank Mills, c. Christow          | 3 18 6   | —        | 17 18       | 3 5 6. 0 5 0          | Feb. 1866   |
| 15000   | Great Laxey, c. Isle of Man       | 4 0 0    | 18       | —           | 5 5 0. 0 10 0         | Sept. 1866  |
| 2908    | Great Wheal Tor, c. Helston       | 40 0 0   | 16 1/2   | 15 16       | 10 10 0. 10 0 0       | Sept. 1866  |
| 1024    | Herodsfoot, c. near Liskeard      | 8 10 0   | 32       | 30 32       | 39 0 0. 1 10 0        | Oct. 1866   |
| 400     | Hingston Down, c. c.              | 10 0 0   | —        | —           | 0 10 0. 0 5 0         | April, 1866 |
| 400     | Lisburne, c. Cardiganshire, Wales | 18 15 0  | —        | —           | 480 10 0. 3 0 0       | Sept. 1866  |
| 6000    | Marke Valley, c. Caradon          | 4 10 6   | —        | —           | 81 17 6. 5 0 0        | Nov. 1866   |
| 3000    | Minera Boundary, c. c. Wrexham    | 1 0 0    | —        | 3 1/2 3 1/2 | 0 13 0. 0 2 0         | Oct. 1866   |
| 1800    | Minera Mining Co. c. Wrexham      | 25 0 0   | —        | —           | 205 8 0. 3 0 0        | Nov. 1866   |
| 20000   | Minning Co. of Ireland, c. c.     | 7 0 0    | 17       | 16 1/2 17   | —                     | July, 1866  |
| 40000   | Mynydd Iron Ore                   | 3 5 0    | —        | —           | 0 6 6. 0 2 6          | Mar. 1866   |
| —       | New Merrybent and Middleton       | 3 10 0   | —        | —           | 5 per cent.           | Nov. 1866   |
| 600     | Pant-y-Glen, s. c.                | 20 0 0   | —        | —           | 10 per cent.          | May, 1866   |
| 200     | Parys Mines, c. Anglesey          | 50 0 0   | —        | —           | 157 10 0. 5 0 0       | Jan. 1866   |
| 1120    | Provident, c. c. St. Cleer        | 1 5 0    | 380      | 21 23       | 81 17 6. 5 0 0        | Nov. 1866   |
| 512     | South Caradon, c. St. Cleer       | 1 5 0    | 380      | 21 23       | 539 10 0. 5 0 0       | Nov. 1866   |
| 6000    | South Darren, c. c.               | 3 6 0    | 2        | 9 9/10      | 0 5 6. 0 2 6          | June, 1866  |
| 6000    | Tincroft, c. c. Pool, Illogan     | 3 0 0    | 2        | 9 9/10      | 18 6 0. 0 5 0         | Oct. 1866   |
| 3000    | W. Chiverton, c. c. Penzance      | 47 10 12 | 125      | 120 125     | 15 7 6. 2 10 0        | Nov. 1866   |
| 400     | West Wheal Seton, c. Camborne     | 47 10 12 | 125      | 120 125     | 461 14 0. 2 10 0      | Oct. 1866   |
| 512     | Wheal Bassett, c. Illogan         | 5 2 6    | 67 1/2   | 60 65       | 622 0 0. 1 0 0        | Oct. 1866   |
| 1024    | Wheal Friendship, c. Devon        | 20 0 0   | —        | —           | 300 0 0. 1 0 0        | Mar. 1866   |
| 4295    | Wheal Killy, c. c. Agnes          | 5 4 6    | —        | —           | 2 13 0. 0 10 0        | Feb. 1866   |
| 2000    | Wheal Rose, c. Scorrier           | 58 10 0  | 145      | —           | 1 0 0. 0 1 6          | May, 1866   |
| 396     | Wheal Seton, c. c. Camborne       | 5 17 0   | 8        | 6 8         | 231 15 0. 5 0 0       | Oct. 1866   |
| 1040    | Wheal Trelawny, c. c. Liskeard    | 5 17 0   | 8        | 6 8         | 54 0 0. 0 5 0         | June, 1866  |
| 17000   | Wicklow, c. c. Wicklow            | 2 10 0   | 23       | 23          | 45 15 0. 0 18 0       | Oct. 1866   |

## BRITISH MINES WITH DIVIDENDS IN ABEYANCE.

|      |                                  |         |       |             |                |            |
|------|----------------------------------|---------|-------|-------------|----------------|------------|
| 1200 | Bryn Gwyn, c. Mold               | 9 0 0   | —     | —           | 8 3 6. 0 13 6  | Aug. 1865  |
| 2880 | Clifford Amalgamated, c. Gwennar | 31 10 0 | 6     | 4 5         | 35 6 0. 0 10 0 | June, 1865 |
| 1055 | Craddock Moor, c. St. Cleer      | 11 5 0  | —     | —           | 7 12 0. 0 4 0  | June, 1865 |
| 6000 | East Carn Brea, c. Redruth       | 3 15 0  | 2 1/2 | 2 1/2 2 1/2 | 0 5 0. 0 5 0   | June, 1865 |
| 6000 | East Birch Tor and Viller Cons.  | 1 6 6   | —     | —           | 0 13 0. 0 2 0  | Oct. 1865  |
| 6000 | West Bassett, c. c.              | 1 10 0  | —     | —           | 26 14 0. 0 5 0 | July, 1865 |
| 1024 | Wheal Exmouth, c. Christow       | 8 0 0   | 12    | 10 12       | —              | Oct. 1865  |
| 1024 | Wheal Mary Ann, c. c. Menheniot  | 8 0 0   | 12    | 10 12       | —              | Mar. 1865  |

## FOREIGN DIVIDEND MINES.

|       |                                   |        |    |       |                 |             |
|-------|-----------------------------------|--------|----|-------|-----------------|-------------|
| 5000  | Cape Copper Mining                | 7 0 0  | —  | —     | 2 12 6. 0 10 0  | April, 1866 |
| 21500 | East Indian Coal, Calcutta        | 10 0 0 | —  | —     | —               | —           |
| 10000 | Fortuna, c. Spain                 | 2 0 0  | —  | —     | 1 5 4. 0 2 0    | Oct. 1866   |
| 20000 | Gen. Mining Assoc., Nova Scotia   | 20 0 0 | —  | —     | 22 9 0. 1 0 0   | June, 1866  |
| 10000 | Gonnesa, c. c. [5000 £5 pd.]      | —      | —  | —     | 7 1/2 per cent. | per annum.  |
| 5000  | Linares, c. Spain                 | 3 0 0  | —  | —     | 11 6 4. 0 5 0   | Jan. 1865   |
| 59275 | New Wildberg, c. c.               | 2 0 0  | —  | —     | 0 12 0. 0 2 0   | Aug. 1865   |
| 50000 | Panuello, c. c.                   | 3 0 0  | —  | —     | 10 per cent.    | Yearly.     |
| 50000 | Pontalena, c. c.                  | 20 0 0 | —  | —     | 2 15 6. 0 1 0   | Dec. 1865   |
| 27500 | Port Phillip, c. c. [5000 £5 pd.] | 1 0 0  | —  | —     | 0 15 0. 0 1 0   | Aug. 1865   |
| 10000 | Scottish Australian Mining Co.    | 1 0 0  | —  | —     | 7 1/2 per cent. | Dec. 1865   |
| 51000 | St. John del Rey, Brazil          | 15 0 0 | 53 | 51 53 | 68 15 0. 4 0 0  | June, 1866  |
| 40000 | Victoria (London) [25000 £1 pd.]  | —      | —  | —     | 0 9 0. 0 1 0    | Jan. 1866   |
| 10000 | West Canada Mining Company        | 1 0 0  | —  | —     | 0 19 6. 0 2 6   | Jan. 1866   |

## FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

|        |                                 |         |   |         |                |            |
|--------|---------------------------------|---------|---|---------|----------------|------------|
| 10000  | Alten and Quenangen United, c.  | 4 10 0  | — | —       | 4 5 0. 0 15 0  | Nov. 1863  |
| 20000  | Australian, c. South Australia  | 7 7 6   | — | —       | 0 2 0. 0 1 0   | June, 1864 |
| 2464   | Burra Burra, c. South Australia | 5 0 0   | — | —       | 325 0 0. 5 0 0 | Dec. 1865  |
| 12000  | Cobre Copper Company, c. Cuba   | 40 10 0 | 2 | 1 1/2 2 | 101 0 0. 1 0 0 | Jan. 1865  |
| 10000  | Copio Mining Company, Chile     | 18 0 0  | — | —       | 6 18 0. 0 10 0 | Nov. 1862  |
| 100000 | Don Pedro No. del Rey, Brazil   | 0 14 0  | — | —       | 1 12 0. 0 8 0  | Dec. 1863  |
| 70000  | English and Australian, c.      | 2 10 0  | — | —       | 0 12 0. 0 1 0  | June, 1864 |
| 60000  | Kapunda Mining Co., Australia   | 1 0 0   | — | —       | 0 12 0. 0 1 0  | June, 1864 |
| 10000  | Lusitania (Portugal)            | 3 0 0   | — | —       | 1 7 0. 0 3 0   | June, 1865 |
| 108815 | Marquitta and New Granada       | 1 0 0   | — | —       | 0 9 6. 0 1 6   | July, 1865 |
| 43174  | New Mexican, c. Mexico          | 28 5 0  | 2 | 1 1/2 2 | 2 19 0. 0 5 0  | Sept. 1864 |
| 10000  | Vancouver, c. c.                | 5 0 0   | — | —       | 0 15 0. 0 5 0  | Nov. 1864  |
| 45000  | Yudanamutana, c. S. A.          | 3 0 0   | — | —       | 0 5 0. 0 5 0   | Aug. 1863  |

## NON-DIVIDEND FOREIGN MINES.

| Shares. | Mines.                                       | Paid.   | Last Pr.  | Bus. done. | Last Call. |
|---------|--|---------|-----------|------------|------------|
| 25000   | Alamillos, c. Spain                          | 2 0 0   | —         | —          | —          |
| 100000  | Anglo-Brazilian, c. c.                       | 0 10 0  | —         | —          | —          |
| 40000   | Britany Silver-Lead Mines, France            | 15750   | 188. pd.] | —          | —          |
| 25000   | Capula, c. Mexico                            | 1 12 0  | —         | —          | —          |
| 30000   | Chontales, c. c. Nicaragua                   | 3 0 0   | —         | —          | —          |
| 10000   | Copiope Smiting, Chile                       | 0 14 0  | —         | —          | —          |
| 300     | Copper Mines, c. c. Australia                | 150     | 470 pd.]  | —          | —          |
| 50000   | East del Rey, c. Brazil                      | 2 15 0  | —         | —          | —          |
| 15000   | El Chico Silver Mining and Reduction Company | 4 10 0  | —         | —          | —          |
| 8000    | English and Canadian Mining Company          | 5 0 0   | —         | —          | —          |
| 40000   | Frontino and Bolivia, c. New Granada         | 1 10 6  | —         | —          | —          |
| 80000   | Great Northern, c. South Australia           | 1 11 6  | —         | —          | —          |
| 10000   | Great Barrier Land, Mining, c. New Zealand   | 5 0 0   | —         | —          | —          |
| 12500   | Nerubia Co. and Iron, c. c. [5000 £5 pd.]    | —       | —         | —          | —          |
| 5000    | Nova Scotia Land and Gold                    | 1 15 0  | —         | —          | —          |
| 15000   | Orea, c. New Zealand [5000 fully paid]       | 1 10 0  | —         | —          | —          |
| 4000    | Peel River Land and Mineral                  | 100 0 0 | —         | —          | —          |
| 30000   | Pestarena, c. c.                             | 2 0 0   | —         | —          | —          |
| 25000   | Quebrada, c. Venezuela                       | 10 0 0  | —         | —          | —          |
| 10178   | Rhenish Consolidated, c. c. [5000 £5 pd.]    | —       | —         | —          | —          |
| 50000   | Rosa Grande, c. Brazil                       | 0 7 6   | —         | —          | —          |
| 15000   | San Pedro del Monte, c. Mexico               | 4 0 0   | —         | —          | —          |
| 10000   | San Roque, c. Spain                          | 5 0 0   | —         | —          | —          |
| 1000    | Schlossberg Colliery                         | 10 0 0  | —         | —          | —          |
| 20000   | Val Antigua, c. c.                           | 0 15 0  | —         | —          | —          |
| 6000    | Val Sassam, c. c.                            | 5 10 0  | —         | —          | —          |
| 5000    | Valdemar Mining Company                      | 20 0 0  | —         | —          | —          |
| 50000   | Vallancas, c. Italy                          | 0 15 0  | —         | —          | —          |
| 45000   | Vicor Emanuel, c. Italy                      | 1 0 0   | —         | —          | —          |
| 20000   | Washoe, c. c.                                | 5 0 0   | —         | —          | —          |
| 80000   | Worthing, c. c. Australia                    | 1 0 0   | —         | —          | —          |
| 7500    | Yorke Peninsula, South Australia             | 1 0 0   | —         | —          | —          |

## BANKS AND FINANCIAL COMPANIES.

| Shares. | Banks.                                 | Paid.   | Last Pr. | Bus. done.    |
|---------|--|---------|----------|---------------|
| 40000   | Alliance                               | 25 0 0  | 19       | 17 1/2 18 1/2 |
| 40000   | Australian Mort. Land and Finance      | 5 0 0   | 5        | 5             |
| 20000   | Australasian                           | 40 0 0  | 63       | 60 62         |
| 10000   | Bank of Egypt                          | 25 0 0  | 31       | 29 31         |
| 10000   | Bank of New Zealand                    | 10 0 0  | 18 1/2   | 17 19         |
| 25000   | Bank of Otago                          | 10 0 0  | 6        | 6             |
| 25000   | Bank of Queensland                     | 25 0 0  | 39       | 37 39         |
| 50000   | Bank of Victoria, Australia            | 10 0 0  | 9        | 7 1/2 8 1/2   |
| 50000   | Brazilian and Portuguese               | 10 0 0  | —        | —             |
| 5915    | Canada Company                         | 32 10 0 | 18 1/2   | 75 80         |
| 40000   | Canadian Loan and Investment           | 2 10 0  | 1 1/2    | —             |
| 20000   | Chart. Bank India, Aust. & China       | 20 0 0  | 16 1/2   | 14 1/2 15 1/2 |
| 50000   | Chart. Merc. India, Aust. & China      | 25 0 0  | 35       | 30 32         |
| 20000   | City                                   | 10 0 0  | 16       | 14 16         |
| 40000   | Colonial                               | 25 0 0  | 36       | 34 36         |
| 20000   | Company of African Merchants           | 3 0 0   | 3        | —             |
| 10000   | Consolidated Bank                      | 4 0 0   | 5        | 4 1/2 4 3/4   |
| 20000   | Credit Foncier and Mobilier of England | 8 0 0   | 3        | 2 1/2 2 3/4   |
| 10000   | Discount Corporation                   | 20 0 0  | —        | —             |
| 20000   | East London                            | 5 0 0   | 4        | 2 1/2 3 1/2   |
| 20000   | English, Scottish, & Aust. Chart.      | 20 0 0  | 17 1/2   | 1 17          |
| 20000   | English and Swedish                    | 20 0 0  | 14 1/2   | 13 15         |
| 25000   | General Credit and Finance of London   | 6 0 0   | 4 1/2    | 3 1/2 4       |
| 15000   | Imperial                               | 20 0 0  | 24       | 22 24         |
| 150000  | International Financial Society        | 5 0 0   | 3 1/2    | 2 1/2 2 3/4   |
| 200000  | International Land Credit              | 5 0 0   | 3 1/2    | 2 3           |
| 4000    | London African Trading                 | 10 0 0  | —        | —             |
| 50000   | London Chartd. Bank of Australia       | 20 0 0  | 25 1/2   | 21 1/2 22 1/2 |
| 27500   | London and County                      | 20 0 0  | 65       | 63 65         |
| 40000   | London Financial Association           | 25 0 0  | 9 1/2    | 5 1/2 6 1/2   |
| 72000   | London Joint-Stock                     | 15 0 0  | 42       | 40 42         |
| 10000   | London and South-Western               | 20 0 0  | 14       | 17 19         |
| 50000   | London and Westminster                 | 20 0 0  | 18       | 17 19         |
| 50000   | Mercantile and Exchange                | 20 0 0  | 14       | 93 95         |
| 17156   | Metropolitan and Provincial            | 1 0 0   | —        | —             |
| 30000   | Mineral Rights Association             | 1 0 0   | —        | —             |
| 20000   | National of Australia                  | 4 0 0   | 6        | 5 6           |
| 10000   | National of Liverpool                  | 15 0 0  | —        | —             |
| 40000   | National                               | 20 0 0  | 70       | 65 67         |
| 25000   | New South Wales                        | 20 0 0  | 46       | 44 46         |
| 45000   | Union of Australia                     | 25 0 0  | 46       | 45 47         |
| 80000   | Union of London                        | 15 0 0  | 45       | 44 45         |

## PROGRESSIVE MINES.

| Shares. | Mines.   | Paid.    | Last Pr. | Bus. done.  | Last Call. |
|---------|--|----------|----------|-------------|------------|
| 4000    | Ballaclough, c. L. of Man, &c.                   | 1 10 0.  | —        | —           | Oct. 186   |
| 3000    | Bedford Unit, c. c. Tavistock.                   | 2 6 8.   | —        | —           | —          |
| 3200    | Bedol Aur. l. Holywell                           | 1 2 0.   | —        | —           | July, 18   |
| 500     | Billins, l. Flint.                               | 20 0 0.  | —        | —           | —          |
| 1000    | Blendyffryn, s. l.                               | 2 0 0.   | —        | —           | Mar. 18    |
| 1248    | Boscawell, l. c. St. Just                        | 7 1 0.   | —        | —           | Sept. 18   |
| 5000    | Bottle Hill, c. Plympton                         | 1 14 6.  | —        | —           | June, 18   |
| 200     | Brynford Hall, c. Flint                          | 28 0 0.  | —        | —           | Jan. 18    |
| 5000    | Bryn Gwili, l. Flint                             | 9 0 0.   | —        | —           | June, 18   |
| 30000   | Calbeck Fells, l. Cumber.                        | 1 5 0.   | —        | —           | —          |
| 1000    | Camborne Consols, c.                             | 18 10 0. | —        | —           | Feb. 18    |
| 4000    | Camborne Va. & Wh. Fran. l.                      | 11 8 10. | —        | —           | July, 18   |
| 11000   | Cape Cornwall, l. c. [3000 £2 10s. pd.]          | —        | —        | —           | Oct. 18    |
| 2000    | Caradon & Phoenix Cons.                          | 0 12 0.  | —        | —           | April, 18  |
| 914     | Caradon Cons., c. St. Cleer                      | 31 3 6.  | —        | —           | Nov. 18    |
| 1000    | Carn Brea, c. Illogan                            | 25 0 0.  | —        | —           | Nov. 18    |
| 6000    | Carn Camborne & Camb.                            | 3 6 2s.  | —        | —           | Oct. 18    |
| 5000    | Caragvonshire, l.                                | 4 0 0.   | 4 3/4.   | 4 1/2.      | —          |
| 4005    | Cardigan Cons., [1000 £5 pd., 3000 £4 6s. pd.]   | —        | —        | —           | April, 18  |
| 600     | Cardiganshire, l.                                | 17 10 0. | 20       | —           | Sept. 18   |
| 20000   | Carysfort [3200 £2 1/2 pd., 18000 £1 1/2 pd.]    | —        | —        | —           | Mar. 18    |
| 66000   | Castell Carn Dochan, g.                          | 0 8 6.   | —        | —           | —          |
| 2500    | Cefn Cilan, l. Flint.                            | 2 18 0.  | —        | —           | Aug. 18    |
| 4000    | Central M. l. c.                                 | 3 12 0.  | —        | —           | —          |
| 16000   | Central Snailbeck                                | —        | —        | —           | Nov. 18    |
| 3000    | Chiverton, l. Perranz.                           | 9 2 6.   | 7        | 6 3/4.      | —          |
| 3000    | Chiverton Moor, l. Perranz.                      | 5 18 6.  | 5        | 4 1/2.      | —          |
| 16000   | Coalattra & Bond [5300 £1 pd., 10700 l. 6s. pd.] | —        | —        | —           | Feb. 18    |
| 256     | Condurrow, c. l. c. Camborne                     | 76 10 0. | —        | 35 40       | —          |
| 5000    | Connorree, c. s. l. Wicklow                      | 1 0 0.   | 1/2.     | —           | —          |
| 2450    | Cook's Kitchen, c. Illogan.                      | 19 14 9. | 6 1/2.   | 6 1/2       | —          |
| 6000    | Copper Hill, c. Redruth                          | 12 10 0. | —        | —           | July, 18   |
| 5000    | Cornwall & Devon                                 | 6 0 0.   | 1 1/2.   | 1 1/2       | —          |
| 6000    | Cornwall Great Consols                           | 1 8 0.   | —        | —           | May, 18    |
| 861     | Crane, c. Camborne                               | 32 4 6.  | —        | —           | July, 18   |
| 20000   | Creake, c. St. Austelock.                        | 3 8 0.   | —        | —           | July, 18   |
| 6000    | Cudra, c. St. Austelock.                         | 4 18 6.  | —        | —           | July, 18   |
| 35000   | Dale, l. North Stafford.                         | 1 0 0.   | 4s.      | 2s. 3s.     | —          |
| 1000    | Darren, l. Cardigan.                             | 12 4 0.  | —        | —           | Oct. 18    |
| 5000    | Devon Great Maria.                               | 7 0 0.   | —        | —           | May, 18    |
| 5000    | Devon Wheat Frances, c.                          | 1 0 0.   | 1 1/2.   | 1 1/2       | —          |
| 1024    | Devon Wheat Frances, c.                          | 17 0 0.  | —        | —           | July, 18   |
| 6000    | Ding Walls, l. Calstock                          | 2 5 0.   | 5/8.     | 3/4 1/2     | —          |
| 258     | Ding Drake, l. Gulval.                           | 48 14 6. | —        | —           | Dec. 18    |
| 20000   | Dolfrwynog, g.                                   | 0 15 0.  | —        | —           | June, 18   |
| 5000    | Dundaik, Ireland, l.                             | 0 12 6.  | —        | —           | April, 18  |
| 3000    | Dyffrynwm, l. Wales                              | 13 7 0.  | —        | —           | Feb. 18    |
| 1000    | Eaglebrook, l.                                   | 17 19 0. | —        | —           | Feb. 18    |
| 412     | East Bassett, c. Redruth.                        | 29 10 0. | 22       | 20 21       | —          |
| 1000    | East Bassett, c. Redruth.                        | 9 0 0.   | —        | —           | July, 18   |
| 6000    | E. Bottle Hill, l. Plympton                      | 0 6 6.   | —        | —           | Oct. 18    |
| 4096    | East Brookwood, Holne                            | 2 8 8.   | 2 1/2.   | —           | July, 18   |
| 2000    | East Buller, c. Gwennap                          | 2 0 0.   | —        | —           | Mar. 18    |
| 4000    | East Chiverton, l. Perranz.                      | 2 6 9.   | —        | —           | Sept. 18   |
| 2048    | E. Falmouth, s. l. Kenwyn.                       | 5 0 6.   | —        | —           | April, 18  |
| 6000    | E. Grenville, c. Camborne.                       | 3 3 6.   | 2 1/2.   | 1 1/2       | —          |
| 4000    | E. Gunnislake & S. Bed. c.                       | 9 0 6.   | —        | —           | Aug. 18    |
| 1000    | East Holywell, c. Redruth.                       | 1 0 0.   | —        | —           | —          |
| 6145    | East Jane, s. l. Cardinham.                      | 2 17 6.  | —        | —           | April, 18  |
| 1000    | East Laxey, l. Isle of Man.                      | 2 10 0.  | —        | —           | Dec. 18    |
| 1000    | East Moor, s.                                    | 0 5 0.   | —        | —           | Aug. 18    |
| 3936    | E. Providence, c. Uny Lel.                       | 4 19 9.  | —        | —           | Nov. 18    |
| 6000    | E. Tresavann, c. Gwennap.                        | 0 10 0.  | —        | —           | May, 18    |
| 5000    | East Snaefell, l. l. of Man.                     | 2 0 0.   | —        | —           | Dec. 18    |
| 5510    | East Seton, c. Camborne                          | 0 11 0.  | —        | —           | —          |
| 126     | E. St. Just, [£600 £10s. pd., £108 pd.]          | —        | —        | —           | April, 18  |
| 226     | E. Tolgus, c. Redruth                            | 99 0 0.  | —        | —           | —          |
| 1190    | E. Wh. Agar, c. St. Cleer.                       | 12 17 0. | —        | —           | Jan. 18    |
| 5000    | E. W. Russel, Tavistock                          | 11 14 0. | 3 1/4.   | 3 3/4       | —          |
| 5000    | Ellen Unit, c. St. Agnes.                        | 1 0 0.   | —        | —           | Nov. 18    |
| 6000    | Fortescue Consols, c.                            | 0 12 6.  | —        | —           | —          |
| 940     | Fowey Cons. c. Tywardreath                       | 5 1 6.   | —        | —           | June, 18   |
| 5000    | Furze Hill Wood. Cons. Buckl.                    | 1 16 0.  | —        | —           | Feb. 18    |
| 6000    | Furze Hill Wood. Cons. Buckl.                    | 1 16 0.  | —        | —           | Feb. 18    |
| 1000    | Garden, c. Gwennap                               | 5 12 9.  | —        | —           | Mar. 18    |
| 4096    | Garaldina Unit, c. Wendron                       | 5 7 7.   | —        | —           | Feb. 18    |
| 5000    | Gawton, c. Tavistock                             | 3 5 6.   | —        | —           | Feb. 18    |
| 5000    | Gen. Min. Co. for Ireland, c.                    | 4 0 0.   | —        | 3           | —          |
| 10000   | Glasgow Caradon c. [30000 £1 pd., 10000 l. pd.]  | —        | —        | —           | Sept. 18   |
| 5144    | Gonamena, c. St. Cleer.                          | 5 16 6.  | —        | —           | Dec. 18    |
| 3000    | Gothic, s. l. Cardigan.                          | 2 10 0.  | 2 1/2.   | 2 1/2       | —          |
| 436     | Grambler and St. Aubyn.                          | 70 0 0.  | —        | —           | —          |
| 4096    | Great Caradon, c. St. Cleer.                     | 1 0 0.   | 1/2.     | —           | —          |
| 4000    | Great Gwili, c. Helston                          | 2 1 0.   | —        | —           | Nov. 18    |
| 4000    | Great Mona, l. Isle of Man.                      | 3 10 0.  | —        | —           | June, 18   |
| 5000    | Great New Downs, c.                              | 5 18 0.  | —        | 2 1/2.      | —          |
| 25000   | Gt. No. Laxey (Isle of Man)                      | 0 10 0.  | —        | 1 1/2 1 1/2 | —          |
| 4000    | Great Retalick, s. l. b.                         | 1 19 0.  | 1/2.     | 3/4 3/4     | —          |
| 5000    | Great South Chiverton, s. l.                     | 1 9 6.   | —        | —           | July, 18   |
| 5000    | Gt. So. Tolgus, c. Redruth.                      | 6 19 6.  | —        | 3 1/2 3 1/2 | —          |
| 5000    | Great West, c. Redruth.                          | 7 17 6.  | —        | —           | June, 18   |
| 5000    | Great W. l. Baddier                              | 7 17 6.  | —        | —           | June, 18   |
| 5000    | Gt. Wh. Bussey, c. l. Kenwyn                     | 16 19 6. | —        | —           | July, 18   |
| 798     | Gt. Wh. Fynte, l. Breage                         | 26 12 0. | 5        | 4 5         | —          |
| 119     | Great Work, c. Germoe.                           | 100 0 0. | —        | —           | —          |
| 5000    | Grit and Stapeley, l.                            | 10 0 0.  | —        | —           | July, 18   |
| 240     | Gunnislake (Clitters), l. c.                     | 4 15 0.  | —        | —           | Aug. 18    |
| 668     | Gwydyr Pk. Con. Llanrwst.                        | 1 12 6.  | —        | —           | Aug. 18    |
| 1000    | Hallenbeagle, c. Kenwyn.                         | 9 12 0.  | —        | 5s. 7s.     | —          |
| 4000    | Haven, l. Cardigan.                              | 4 15 0.  | —        | —           | Sept. 18   |
| 5000    | Illogan, l. c.                                   | 0 19 6.  | —        | —           | June, 18   |
| 4000    | Lady Bertha, c. Tavistock.                       | 3 19 6.  | —        | —           | Oct. 18    |
| 6000    | Leawood, c. l. Lydford                           | 3 3 6.   | —        | —           | June, 18   |
| 919     | Leeds and St. Aubyn, l. c.                       | 19 13 4. | —        | —           | Mar. 18    |
| 665     | Lelant Cons. c. Uny Lelant                       | 35 0 0.  | —        | —           | Mar. 18    |
| 160     | Levant, c. l. St. Just.                          | 10 8 1.  | —        | —           | June, 18   |
| 600     | Levant Unit, St. Just.                           | 0 10 0.  | —        | —           | —          |
| 1024    | Lower Park, l. Denbigh.                          | 3 11 0.  | —        | 3 3 1/4     | —          |
| 5000    | Maes-y-Safn, l.                                  | 20 0 0.  | —        | —           | Jan. 18    |
| 6000    | Manillin, c. Lostwithiel                         | 4 7 0.   | —        | —           | May, 18    |
| 6000    | Merilyn, l. Flint.                               | 3 15 6.  | —        | —           | Jan. 18    |
| 5000    | Minera Western Bondry                            | 0 2 6.   | —        | —           | Sept. 18   |
| 775     | Mollat, c. South Monlton                         | 3 13 0.  | —        | —           | Aug. 18    |
| 4000    | Monnt Pleasant, l. Mold                          | 4 0 0.   | —        | —           | —          |
| 240     | Nanslet, l. c. Kea                               | 26 0 0.  | 16       | 14 15       | —          |
| 1000    | Nantow, c. Kea                                   | 6 0 0.   | —        | —           | —          |
| 1212    | Nant Minera, l. c.                               | 6 10 0.  | —        | —           | Jan. 18    |
| 250     | Nanty Mines, l. Montgom.                         | 30 0 0.  | —        | —           | Aug. 18    |
| 5000    | New Clifford, c. Gwennap                         | 2 0 0.   | —        | —           | Mar. 18    |
| 5000    | New Crown [12000 £1 pd., 12000 l. 6s. pd.]       | —        | —        | —           | Sept. 18   |
| 1414    | New E. Russell, c. Tavistock.                    | 0 10 6.  | —        | —           | Sept. 18   |
| 5000    | Nether Heath, l. Dufton                          | 1 1 0.   | —        | —           | May, 18    |
| 5000    | New Hendra, l. c. Breage.                        | 14 0 0.  | —        | —           | Nov. 18    |
| 5000    | New Penrize, l. c.                               | 1 0 6.   | —        | —           | Nov. 18    |
| 5000    | New Tamar, s. l.                                 | —        | —        | —           | —          |
| 555     | New Treleigh, c. Redruth.                        | 4 8 0.   | —        | —           | May, 18    |
| 5000    | New Trevenen, l. Wendron                         | 84 10 0. | —        | —           | Aug. 18    |
| 70      | Newtownards Min. Co. Down                        | 50 0 0.  | —        | —           | —          |
| 96      | New Wheel Lovell, l.                             | 1 9 0.   | —        | —           | Aug. 18    |
| 5000    | New Wh. Seton, c. Camb.                          | 55 15 0. | 35       | 35 40       | —          |
| 5000    | New Wheel Towan, c. l.                           | 1 10 0.  | —        | —           | Sept. 18   |
| 5000    | North Devon, s. l.                               | 1 10 0.  | —        | —           | July, 18   |
| 5000    | No. Deirone, c.                                  | 4 0 0.   | —        | —           | Oct. 18    |
| 5000    | North Downs, c. Redruth.                         | 4 11 4.  | —        | —           | Aug. 18    |
| 61      | No. Grambler, c. Redruth.                        | 16 14 9. | —        | —           | Aug. 18    |
| 90      | N. Hallenbeagle [5000 £1 pd., 8000s. 6d. pd.]    | —        | —        | —           | July, 18   |
| 90      | North Jane, l. s. l. Kenwyn.                     | 3 0 6.   | —        | —           | Sept. 18   |
| 90      | North Levant, l. c. St. Just                     | 10 0 0.  | —        | —           | Sept. 18   |
| 90      | Nth. Minera, l. Wrexham                          | 1 0 0.   | —        | —           | —          |
| 90      | N. Phenix, c. Linkinghorne                       | 4 4 0.   | —        | —           | —          |
| 90      | North Park, c. Illogan                           | 1 0 0.   | —        | —           | —          |
| 90      | No. Robokar, c. Camborne                         | 48 1 0.  | 4        | 3 4         | —          |
| 90      | No. Shepherds, l. Newlyn.                        | 6 0 0.   | —        | —           | Nov. 18    |
| 90      | No. Treskerby, c. St. Agnes                      | 1 9 0.   | 3        | 2 1/2 2 1/2 | —          |
| 90      | North Wheel Bassett, c. H.                       | 5 0 0.   | —        | —           | April, 18  |
| 14      | North Wheel Crofty, c.                           | 2 11 3.  | 2        | 2 1/2 3 1/2 | —          |
| 44      | N. W. Robert, Smp. Spiney                        | 4 6 5.   | —        | —           | Feb. 18    |
| 48      | Oxel Tor, c. Calstock                            | 2 7 4.   | —        | —           | Aug. 18    |
| 90      | Old Gunnislake, c. Calstock                      | 2 1 0.   | —        | —           | Aug. 18    |
| 90      | Oldswell, l. c. Merioneth                        | 0 0 0.   | —        | —           | —          |
| 90      | Par Consols, c. St. Blaiz                        | 2 2 0.   | —        | —           | Nov. 18    |
| 90      | Parand, St. Blaiz Cons. l.                       | 1 18 9.  | —        | —           | Sept. 18   |
| 90      | Peden-an-drea, l. Redruth.                       | 5 10 6.  | —        | —           | July, 18   |
| 90      | Penden Consols, c. St. Just                      | 5 15 0.  | —        | —           | Oct. 18    |
| 90      | Penhale Wheel Vor, l. c.                         | 2 15 0.  | —        | —           | Oct. 18    |
| 90      | Penhalls, l. St. Agnes                           | 3 0 0.   | —        | —           | May, 18    |
| 90      | Penhale and Lomax, s. l.                         | 1 10 0.  | —        | —           | Oct. 18    |
| 90      | Penhallow Moor, l.                               | 9 1 6.   | —        | —           | Sept. 18   |
| 90      | Penrize, l. c. Merioneth                         | 0 0 0.   | —        | —           | Feb. 18    |
| 90      | Penrize Lygan, l.                                | 30 0 0.  | —        | —           | May, 18    |
| 90      | Pilberrto, l. St. Agnes                          | 15 0 0.  | —        | —           | —          |
| 90      | Polbrene, l. St. Agnes                           | 8 0 0.   | —        | —           | —          |
| 90      | Prince Arthur Consols, l.                        | 2 0 0.   | —        | —           | —          |